NOVEMBER, 1934

COTTON

Serving the

TEXTILE INDUSTRIES

NOV 19 1934

One of the Largest

CONTINUOUS INDIGO DYEING MACHINES

In the World

PEPPERELL TRADE MARK FABRICS

The Lindale Division of the Pepperell Manufacturing Company, noted for its modern equipment and ability to produce quality denims, chambrays, flannels and cotton suitings, have just installed one of the largest and most modern Continuous Indigo Dyeing Machines in the world.

The erection of this new dye plant is in keeping with the progressive and foresighted policy of this company to use the most modern machinery for the production of outstanding textile products.

Naturally, Robert and Company are proud of having been chosen to handle this project. Your problem may be smaller or larger; in either case, we solicit your inquiry.

ROBERT AND COMPANY

ATLANTA INCORPORATED GEORGIA

Architects and Engineers

Table of Contents, Page 33.

KNITTING SECTION, PAGE 97

Advertisers' Index, Page 132.

Yarns .. WE DON'T TELL 'EM .. WE SELL 'EM

F. P. YARNS LIVE UP TO PROMISES

SOME kinds of yarns promise much that fails to materialize in performance. ¶ Not so with F. P. cotton yarns. They always live up to promises, insofar as it is humanly possible to make them do so. Our offerings come from highly reputable manufacturers who take every precaution to assure standardized quality from one spinning to the next. ¶ F. P. offerings include all popular counts and qualities—natural, bleached or dyed, in most of the standard put-ups commonly used. ¶ Let us make recommendations, send prices and samples.

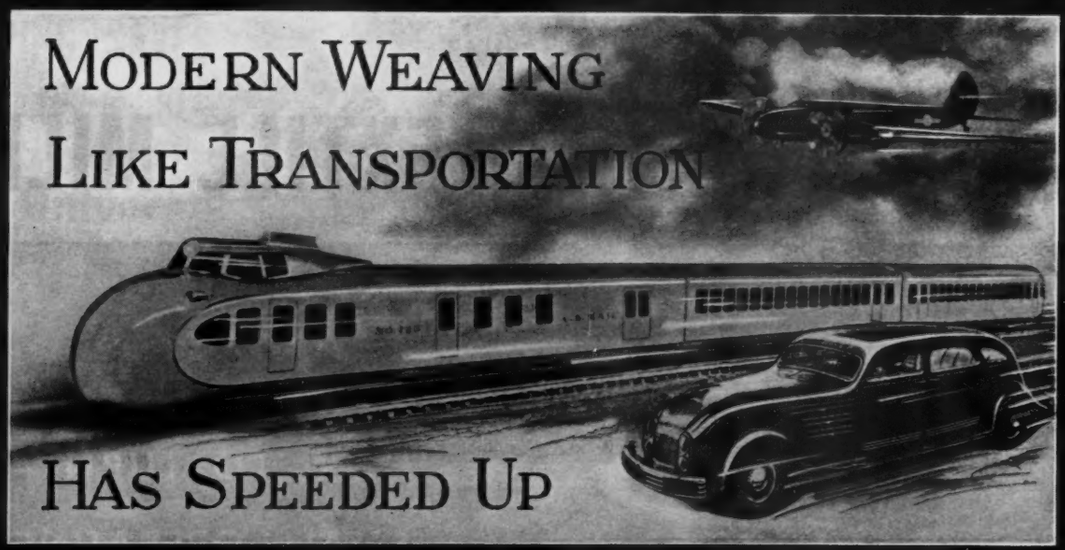
FRANKLIN PROCESS COMPANY

Yarn Merchants and Yarn Dyers. Also Manufacturers of Glazed Yarns and Machines for Dyeing and Bleaching Yarns in the Package Form, Cotton and Wool Raw Stock, Worsted Tops and Worsted Yarn on Jackspools, also Machines for Soaking Silk. Main Office and Plant at Providence, R. I. Branch Plants at Philadelphia, Pa., Greenville, S. C., and Chattanooga, Tenn. New York Rep., 40 Worth Street

FRANKLIN PROCESS

COTTON YARNS AND CUSTOM YARN DYEING

COTTON is published monthly by W. R. C. Smith Publishing Co. Dalton and Atlanta, Ga. Subscription Rates, United States and Possessions, $1.00 for one year; $2.00 for three years; Canada, $1.50 per year; Foreign Countries, $2.00 per year. Entered as second-class matter at the postoffice, Dalton, Ga., under the Act of March 3, 1879.



This is No Time to Stand Pat—Streamlines and High Speed are the Order of the Day in Transportation—High Speed Now Rules in the Weave Room

The High Speed Loom is Changing Weaving Conditions—It Reduces Costs—Improves the Product—Facilitates Sales—Opens New Markets

You Can't Afford to Ignore Facts and Stand Pat with Slow-Running Looms Built for Other Years and Other Conditions—To Stand Pat is Like Trying to Drive Your Automobile with the Clutch Left in Neutral—You Can't Get Anywhere Except

To Roll Down Hill

The X Model Loom—C Model—XK Model—XL Model—R Model—All are Modern Looms Designed to Meet Present Day Conditions—to Climb the Hills and Make the Grades in This Present Era

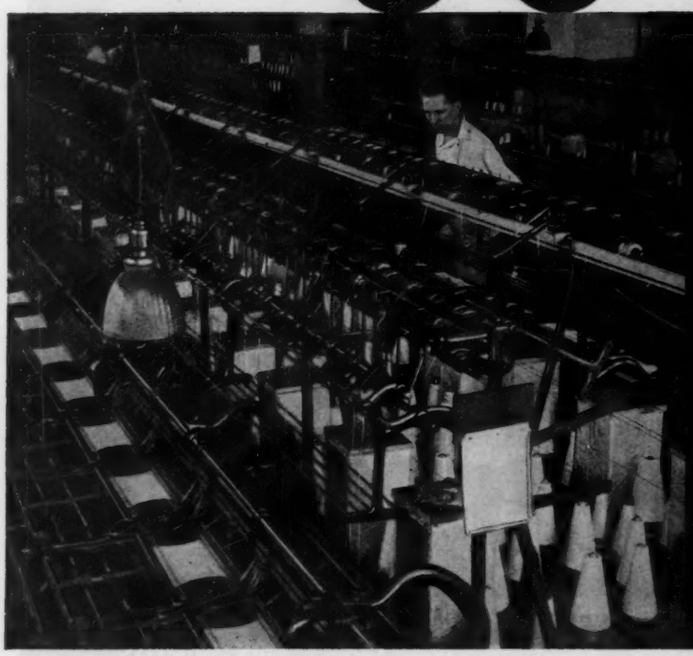
Get on the Upgrade With Draper High Speed Looms

DRAPER CORPORATION

Hopedale Massachusetts

Southern Offices Atlanta Ga and Spartanburg S C

86 TEXTILE MILLS



Learn

HOW TO TURN A SMALL OPERATING EXPENSE INTO *Big* PROFITS

Eighty-six textile mills, that formerly looked upon oil and grease as relatively unimportant operating expenses, have turned to Texaco *tested* Lubricants and found big profits.

Ordinary oils and greases — bought solely on a basis of price per gallon — may appear to save you a few cents. But they will most likely add dollars to your operating expenses through increased power costs, higher spoilage rates, preventable expense for repairs and replacements and excessive consumption of lubricants. Texaco *tested* Lubricants minimize and sometimes eliminate such hazards to profitable operation. In many textile mills such as yours, they have proved exceptionally suitable for all kinds of machinery — from bale breakers to trimmer frames.

It may be a good business move for you to talk with a Texaco Engineer about the efficiencies and economies which these *tested* lubricants can bring to your mill. There is no obligation and it may lead you to bigger profits.

TEXACO REG. T. M.

THE TEXAS COMPANY
135 East 42nd Street, New York City

TEXACO *tested* LUBRICANTS

"There is a Texaco tested Lubricant for every purpose"

UNIVERSAL HIGH SPEED CONING AND WARPING SAVES THIS MILL $100 A WEEK OVER SLOW SPEED WARPING

The Universal System--costing *half* the comparable high speed system--brings *twice* the return on the investment.

In this case:

$11,000 is the cost of the Universal.
$57.00 is the cost of maintaining it a year.
26½% is the net return on this investment.

and the Universal incurs no other large charges.

It handles any spinning bobbin.
It is easily changed from one count of yarn to another.

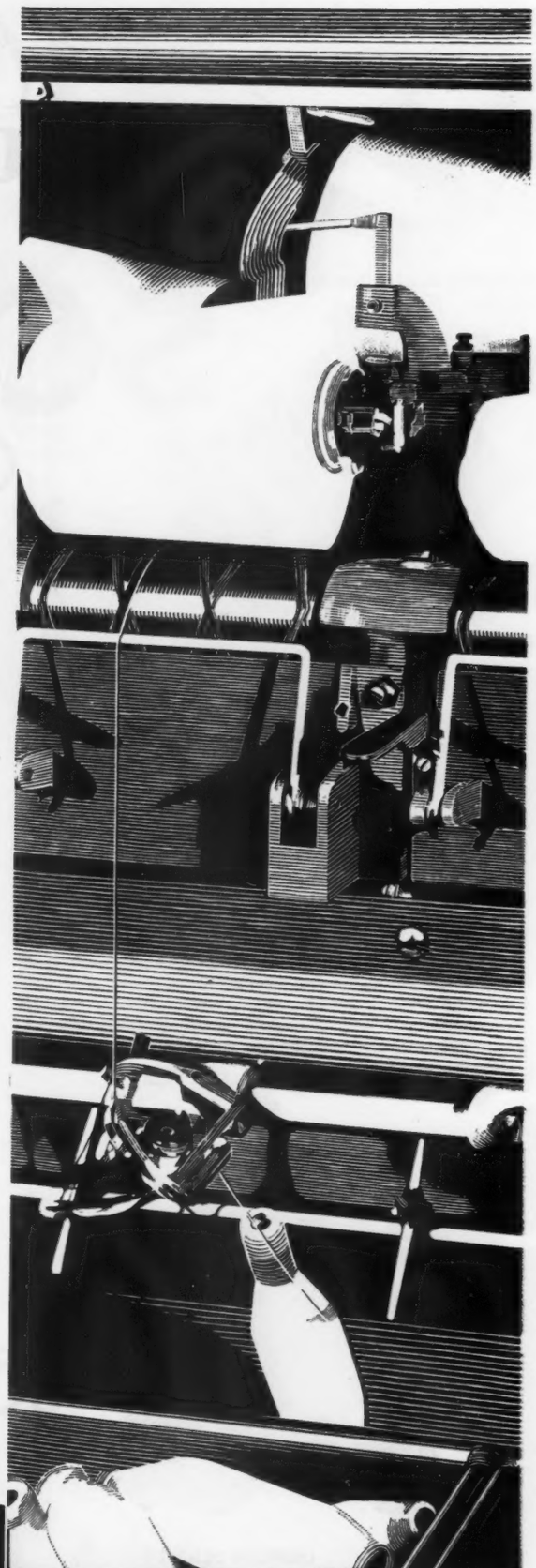
In *every* case the Universal High Speed coning and warping system shows substantial savings over slow speed warping.

AND IN MOST CASES THE UNIVERSAL SYSTEM, SHOWING A MUCH GREATER RETURN ON THE INVESTMENT, COSTS *HALF* THE COMPARABLE HIGH SPEED SYSTEM.

For unbiased and unvarnished facts on the advantages of The Universal System of High Speed Coning and Warping for your mill, write Dept. A., Boston. There is no obligation.

UNIVERSAL WINDING CO.
BOSTON

NEW YORK - PHILADELPHIA - UTICA - CHARLOTTE - ATLANTA - SPRINGFIELD



UNIVERSAL
High Speed Coning and Warping

GUMMED CLOTH INNER-LINING

Controlled Accuracy in SONOCO CORK COTS

"LONG" DIMENSION-RIGID

EASIEST TO APPLY CORK NOT COMPRESSED

UNIFORM DENSITY MAKES FOR PARALLEL SURFACE

SONOCO COTS are **Re-inforced** to **retain** uniform density of the cork and the original "long" dimension of the cot.

The very advantages found in the superior elasticity, cushion qualities and drafting surface of cork, must be controlled to insure machine-like accuracy and precision in cork cots necessary to the most efficient spinning of yarn.

The exclusive and patented SONOCO Reinforcing Agent (gummed cloth inner-lining) is the practical answer.

This feature gives the required strength to the "long" dimension of the cot. When forcing cot on to metal roll the cork cannot be compressed, with possibility of shortening the cot. Long periods of running will not cause the cot to "spread", or elongate.

And—Simplified and Cheaper roll covering, **original** with SONOCO COTS, is obviously most practical by reason of this same **Re-inforcing** feature.

NRA MEMBER WE DO OUR PART

SONOCO PRODUCTS COMPANY

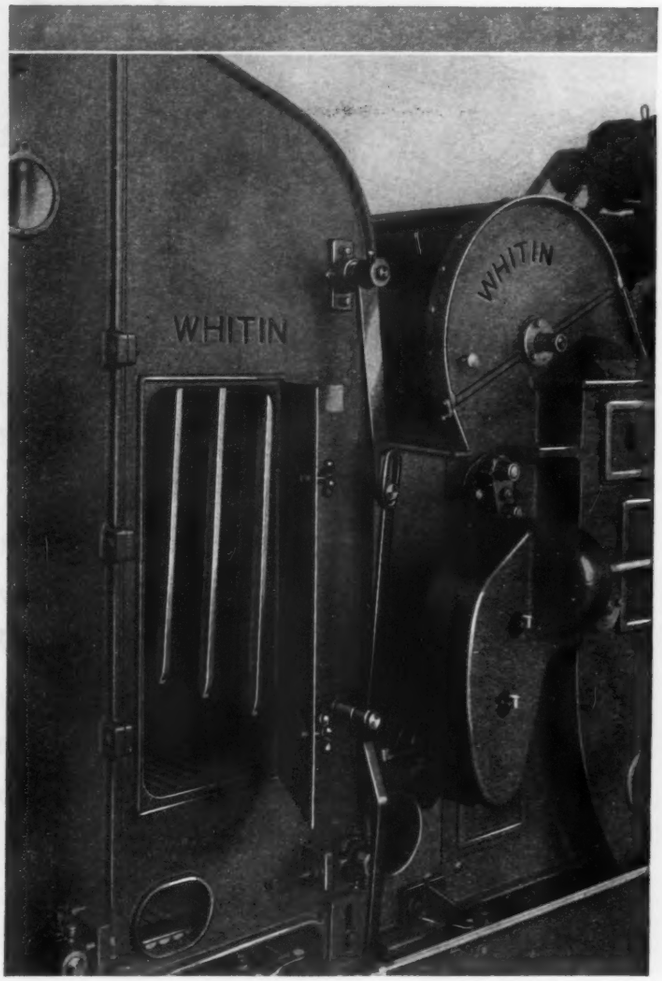
HARTSVILLE
S. C.

Branch Plants
Rockingham, N. C.
Garwood, N. J.
Brantford, Ont.

Main Plant and General Offices:
Hartsville, S. C.

Eastern Sales Office:
North Avenue
Garwood, N. J.

The WHITIN 1934 Picker Installation



the result of more than one hundred years of progress in building Preparatory Machinery

Why use an Intermediate Feeder in a One Process Picker?

BECAUSE cotton deposited unevenly on the cages due to air drafts, unless corrected by the Intermediate Feeder, *is carried forward to the cages in the next section in the same uneven sheeet.* The Intermediate Feeder corrects uneven distribution of the cotton across the width of the cages.

BECAUSE the large capacity hopper in the Intermediate Feeder *aids in the proper opening and blending of the stock.*

BECAUSE the supply of cotton in the hopper can be maintained within very close limits, which permits the cone belt *to work in a narrow range of the cone surface at all times.*

BECAUSE reducing the work which the Evener belt has to do permits the Evener to function more efficiently. The Evener cone belt *has less power to transmit in controlling the Feed preceding the finisher section.*

The stock is evened BEFORE it reaches the Feed Rollers

All parts readily accessible for rapid adjustment. Cleanout doors conveniently located, of ample size. Ball-bearings used generously throughout wherever practical and advantageous.

WHITIN MACHINE WORKS **WHITIN** WHITINSVILLE, MASS.

DEEP ROOTED

but flexible

You can trace the evenness of your finished product, your yarn and your roving—job after job—to Tuffer Card Clothing. Every wire is deep rooted in Tuffer Foundation, yet held with the precise amount of flexibility to card efficiently, to stay sharp and to withstand strain and avoid shelling out.

In your card room, Tuffer delivers the service you have a right to expect. You can check this service with Tuffer covered cylinders, doffers and Tuffer covered top flats. We recover top flats nearby at our Atlanta plant and gladly loan you a set while yours are being reclothed; so that you do not lose a moment's operating time in your card room. Scores of mills in your field appreciate the extreme care with which we manufacture card clothing to *their* specifications with patented foundation of our own construction, and wire rigidly and constantly tested for uniform temper.

Tuffer Products
Lickerin Fillets
Feed Roll Fillets
Tumbler Fillets
Stripper Fillets
Worker Fillets
Doffer Fillets
Fancy Fillets
Cylinder Fillets

TRADE MARK
TUFFER
REG. U.S. PAT. OFF.

Tuffer Products
Doffer Rings
Strickles
Emery Fillets
Burnisher Fillets
Top Flats Recovered and extra sets loaned.
Lickerins Rewired at Southern Plant.

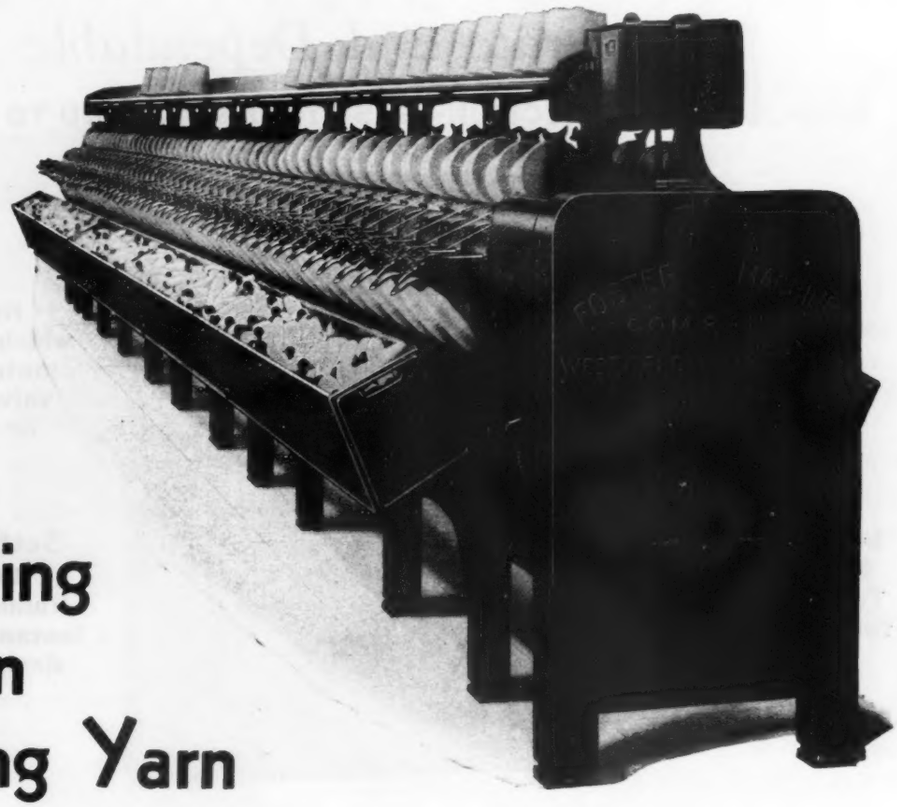
Midgley Patented Hand Stripping Cards and Inserted Eye and Regular Wire Heddles

HOWARD BROS. MANUFACTURING CO.

HOME OFFICE AND FACTORY: WORCESTER, MASS.

Southern Plant
244 Forsyth Street, Atlanta, Ga.

Branch Offices
Philadelphia, Pa., Dallas, Texas, and Washington, D. C.



Cone Winding Cotton Knitting Yarn

CONE WINDING, the final process in yarn mills and mercerizing plants making yarn for Knitting is the mills' most important process and if scientifically done, will assure satisfied Knitting customers.

Model 102 winding adds this value to a mill's product.

Two of the qualities Foster Model 102 cones have that are appreciated by Knitters are **EVEN DENSITY** always and **SOFTNESS** when necessary especially on mercerized yarns. These qualities make for even tension and even give-off of the yarn from the cone on the Knitting Machine and are reflected in the resulting high grade appearance of the Knitted fabric.

Foster Machine Company

WESTFIELD, MASSACHUSETTS

FRED P. BROOKS, REPRESENTATIVE, BOX 941, ATLANTA, GA.

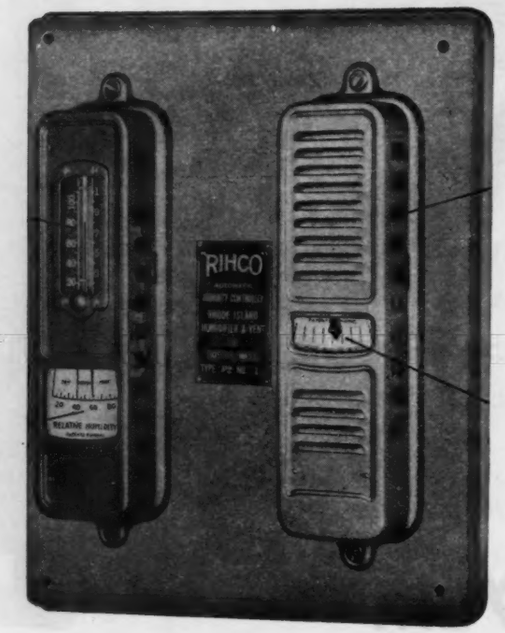
AN AUTOMATIC HUMIDITY CONTROLLER

Accurate and Dependable

SIMPLE IN CONSTRUCTION---EASY TO INSTALL AND TO OPERATE

Thermometer showing Room Temperature.

3
Indicator showing Room Humidity. Tells where to set the setting pointer.



1
Humidistat which controls the motor operated valve on the air or water line.

2
Setting pointer By which the Humidistat can be instantly set for any desired humidity.

The New RIHCO Humidity Controller Gives

"Better Results at Low Cost"

Humidifier controls should be down where the work is---not high up on a post out of sight and reach. Unlike old style, bulky controls which would block an alley, the New RIHCO Control is only 7 3/4" wide and can be mounted on an ordinary sized post without taking up any room at all. It is down where it ought to be; where you can read the Indicator easily, and adjust the Humidistat readily.

And the New RIHCO Control is so reasonably priced that any mill can afford to have all the controls they need.

R. I. HUMIDIFIER & VENT. CO.

Established 1908

99 CHAUNCY STREET **BOSTON, MASS.**

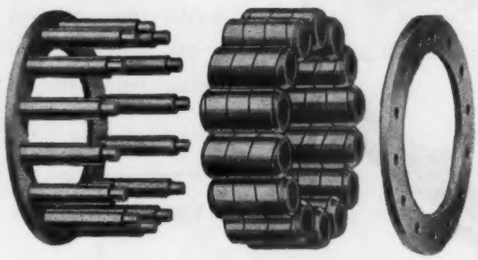
EXCLUSIVE SOUTHERN AGENTS

AldricH MachinE

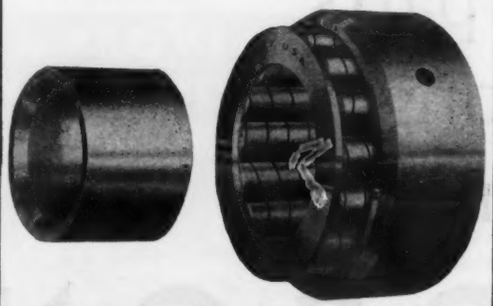
Greenwood, **WorkS** South Carolina

THIS IS THE BEARING

This is the roller used in a Hyatt bearing—a veritable oil reservoir. The grooves spread the oil back and forth across the rollers and shaft.



The rings, bars and rollers, before assembly, look like this. Note the number of rollers per bearing. Every space is filled. This means more capacity and the strongest cage in any bearing.



The rollers and cage, when riveted together, form a roller assembly which runs in hardened steel races. Outer race shown with assembly partly pulled out. Inner race beside it.

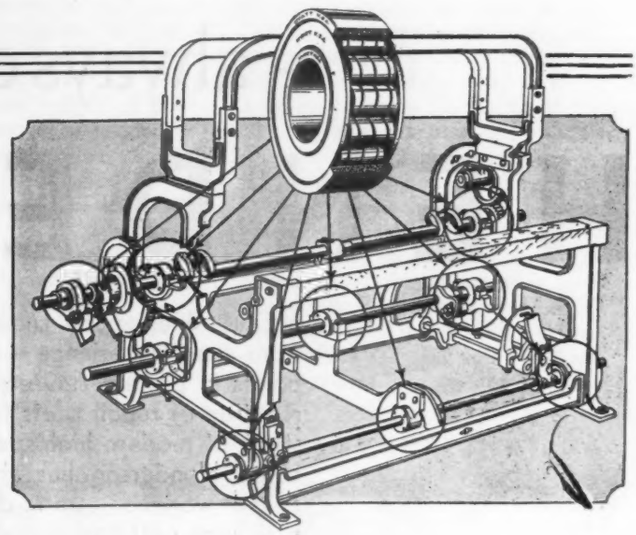
17 years of experience in equipping over 10,000 looms has proved that these bearings in a loom are reasonable in cost, provide a sound return on investment.
Hyatt Roller Bearing Company, P. O. Box 476, Newark, N. J.

Which Modern Minded Mill Men Are Specifying For Their New Looms—

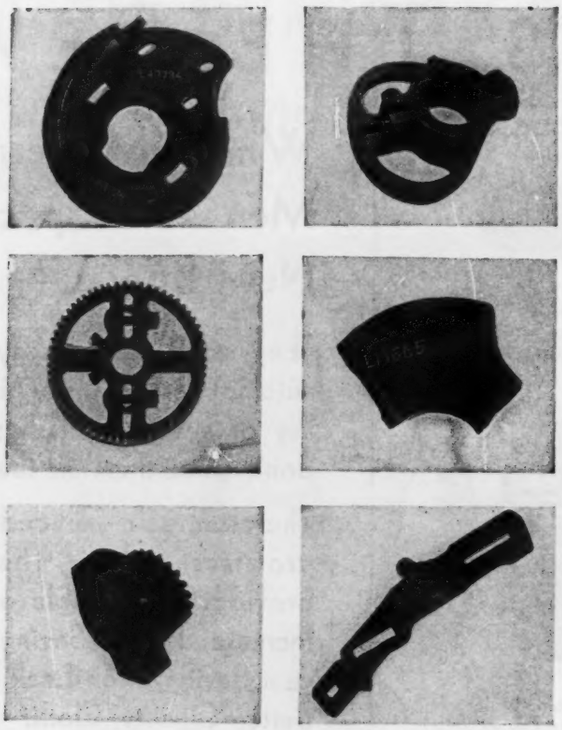
They don't want buggy wheel bearings in their automobiles or their pickers or in their drawing or spinning, slashers or warpers and they don't want them in their looms.

These modern minded men don't want compromises, either. They want a bearing that provides all possible advantages:—Production Increase, Power Saving, Repair Saving, Lubricant Saving, Non-Leaking, Long Accurate Life. Better Quality Cloth.

These shrewd buyers tell their loom builder to include Hyatt Roller Bearings at these positions:
CRANK SHAFT, CAM SHAFT, ROCKER SHAFT, TAKE-UP, DOBBY DRIVE.



HYATT
ROLLER BEARINGS
PRODUCT OF GENERAL MOTORS



for textile parts
that last longer
— always come to

HENDERSON

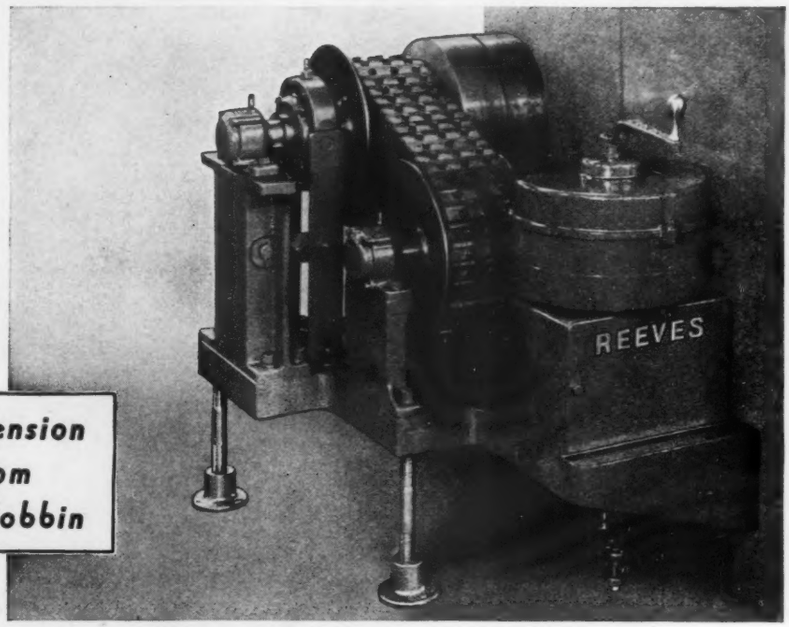
because Henderson knows textile equipment from long experience — knows the weakest points in present day equipment and what is required of repair parts to stand up under the strain of modern high-speed operation — because Henderson has the quality materials, skilled workmen, up-to-date equipment and precision patterns to produce textile repair parts that will fit the machine for which they are intended — because Henderson's low overhead and close location to Southern mills enable quicker service and substantial savings. Prices on any part for any make of textile equipment will be quoted promptly on request.

HENDERSON FOUNDRY & MACHINE WORKS,—HAMPTON, GA.

NEW REEVES Variable Speed SPINNING FRAME DRIVE

Latest addition to* REEVES *line of Variable Speed Control Units provides automatic regulation of belt-driven spinning frames—each frame controlled individually, taking its power from overhead motor or line-shaft.

Insures Even Tension On Yarn from Empty to Full Bobbin



New Belt-driven Unit with Cover Guard Removed

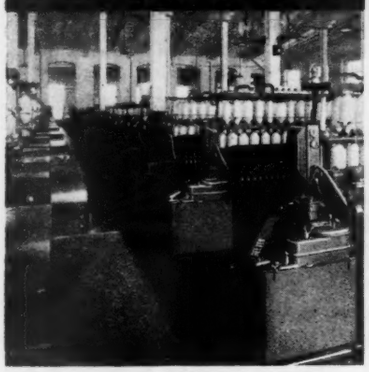
THIS new design is another important development by REEVES to effect better spinning conditions through automatic control of yarn tension from empty to full bobbins.

The many advantages made possible by the REEVES Individual Motor Spinning Frame Drive are secured with this new belt-driven unit—an even yarn tension and twist, more uniform yarn size, less end breakage, greater elasticity, production increase, and immediate changes in speed—when changing yarn sizes—without loss of production.

As on the REEVES Individual Motor Drive, there are two types of Automatic Control—one for filling and combination build and the other for warp build. Both permit starting at a slow speed on an empty bobbin, gradually increasing speed as the bobbin fills, running at high speed in the center and slowly decreasing during the last of the doff. ANY low or high between the limits of the DRIVE may be obtained as well as ANY rate of increasing or decreasing.

This new belt-driven Unit is easily installed. Bolts directly to the spinning frame, making a rigid, positive compact and sturdy drive of utmost simplicity. Adjustable motor base can be furnished for changing to individual motor drive, when desired. Write today for new folder, giving complete details of construction and operation.

IMPROVED INDIVIDUAL MOTOR DRIVE



Typical Mill Installation

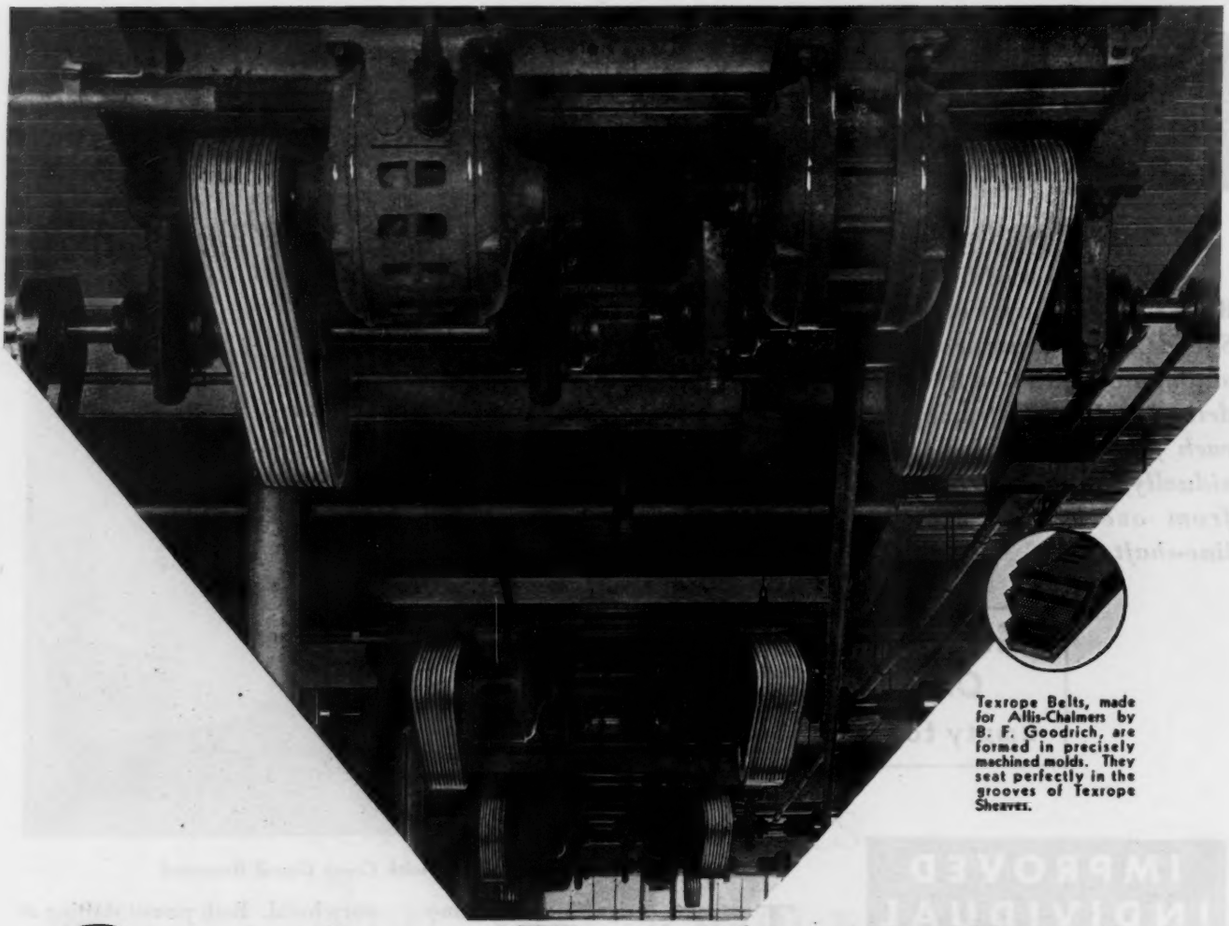
AUTOMATIC speed regulation—long desired for Spinning Frames—became a reality when the REEVES Variable Speed Spinning Frame Drive was introduced two years ago. Now this Individual Drive tested in hundreds of installations—improved and refined—is demonstrating its sensitive and dependable control in an increasing number of mills. May be installed on old or new Frames. Uses any standard motor, old or new. Requires no more space than a standard Spinning Frame motor with multiple V-belts or enclosed chain drive.

REEVES PULLEY COMPANY, COLUMBUS, INDIANA

★ REEVES ★

VARIABLE SPEED TRANSMISSION

The most widely used unit for sensitive variable speed control in the textile industry is the REEVES *Variable Speed Transmission. From 38 years' specialized experience in speed control engineering, we have developed a complete line of variable speed drives—units in a wide range of proved designs, sizes, controls and speed ratios to meet every textile requirement. What machines in your plant need a wider range of speed selectivity? Our engineers will show, without obligation, how easily these machines may be* REEVES*-equipped for infinite speed control.*



Texrope Belts, made for Allis-Chalmers by B. F. Goodrich, are formed in precisely machined molds. They seat perfectly in the grooves of Texrope Sheaves.

Born in a Textile Mill...

TEXROPE Multiple V-belt Drives first saw the light of day in a textile mill. Allis-Chalmers engineers had been called in to solve a most perplexing problem.

"We've got to have some other kind of drive", said these mill owners. "None we know of fills the bill. Now go to it!" Out of the months of painstaking study and extensive experiments that followed there emerged Texrope Drives. Their wide use today by textile mills everywhere proves how completely Allis-Chalmers engineers overcame every obstacle they faced.

Texrope Drives start evenly and smoothly. They neither backlash nor slip, and so do away with jerks and jars. They also prevent overheated bearings on motors and spinning frames. Their constant speed, low maintenance cost, and freedom from oil and dirt gives complete satisfaction to every textile operator who is using them.

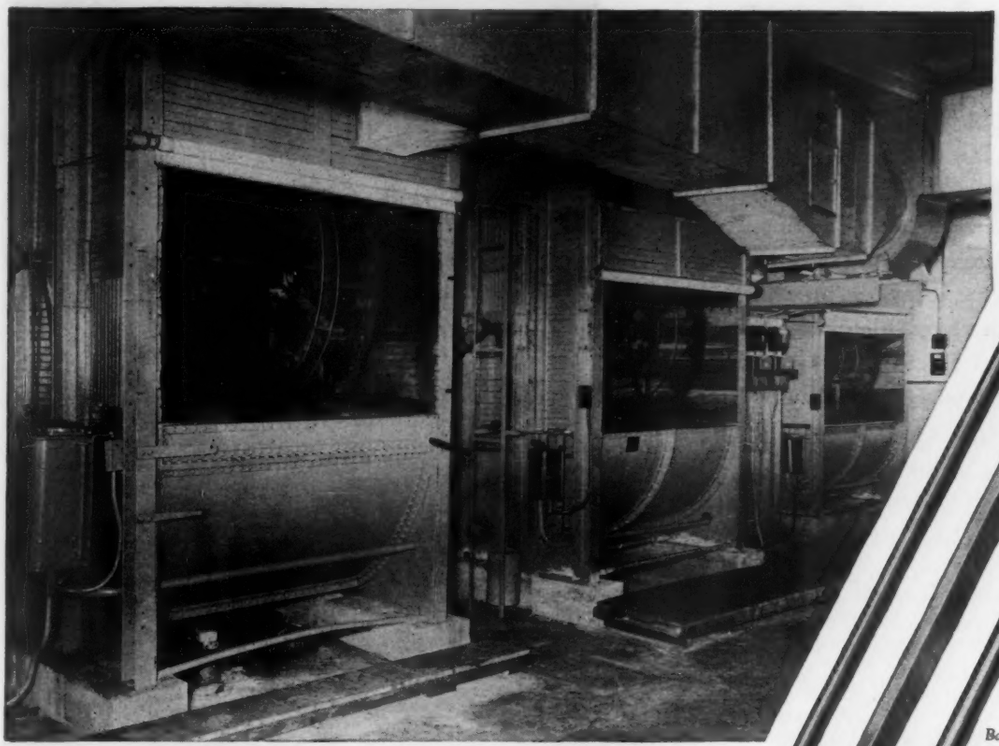
ALLIS-CHALMERS MANUFACTURING CO.
MILWAUKEE • WISCONSIN

TEXROPE DRIVES

ORIGINATED BY ALLIS-CHALMERS

From DIPPERS *to* DYEING MACHINES

you find MONEL METAL *used all through this plant*



Battery of three "Giles" skein dyeing machines at the New York City plant of Malina Company, Inc., 111 Eighth Ave. These machines equipped with 16-guage Monel Metal tub linings, also Monel Metal dyesticks. Built by Giles Dyeing Machinery Company, Frankford, Philadelphia, Pa.

* * *

Type of round and square Monel Metal dyesticks as used by Malina Company, Inc. in their "Giles" skein dyeing machines, manufactured by Giles Dyeing Machinery Company.

GILES *Skein Dyeing Machines with Monel Metal tub linings and dyesticks are typical of the equipment used by Malina Company, Inc.*

ALL THROUGH the New York City plant of Malina Company, Inc., you find Monel Metal . . . and the reason is not difficult to understand:

For years this prominent rayon converter has been using Monel Metal. Every installation has helped to sell Monel Metal as the material to be used in the next piece of equipment that is installed.

Monel Metal is strong and tough. It wears and wears, but it seems never to wear out. Monel Metal is solid, and has no coating to chip or crack.

It never splinters. It does not develop rough spots or jagged edges to snag delicate fabrics.

Moreover, Monel Metal is a *stable* metal. It does not react with chemicals commonly used in dyeing processes... good protection against off shades and spoilage. And, as you surely know, Monel Metal is rust-proof and highly resistant to corrosion. It takes on added polish from use, and its surfaces are so smooth and hard, that cleaning between batches is a matter of minutes.

Years of experience with this metal have convinced the management of the Malina Company. And so today you find the plant filled with Monel Metal...from the modern Smith-Drum and the Giles skein dyeing machines to hand tubs and utensils.

If you want the complete facts about the usefulness of Monel Metal in dyeing and processing every sort of textile . . . cotton, rayon, silk, or wool . . . write for "LIST B" and other literature. You will find this material well worth reading.

THE INTERNATIONAL NICKEL COMPANY, INC.
67 WALL STREET, NEW YORK, N. Y.

Monel Metal

Monel Metal is a registered trademark applied to an alloy containing approximately two-thirds Nickel and one-third copper. Monel Metal is mined, smelted, refined, rolled and marketed solely by International Nickel

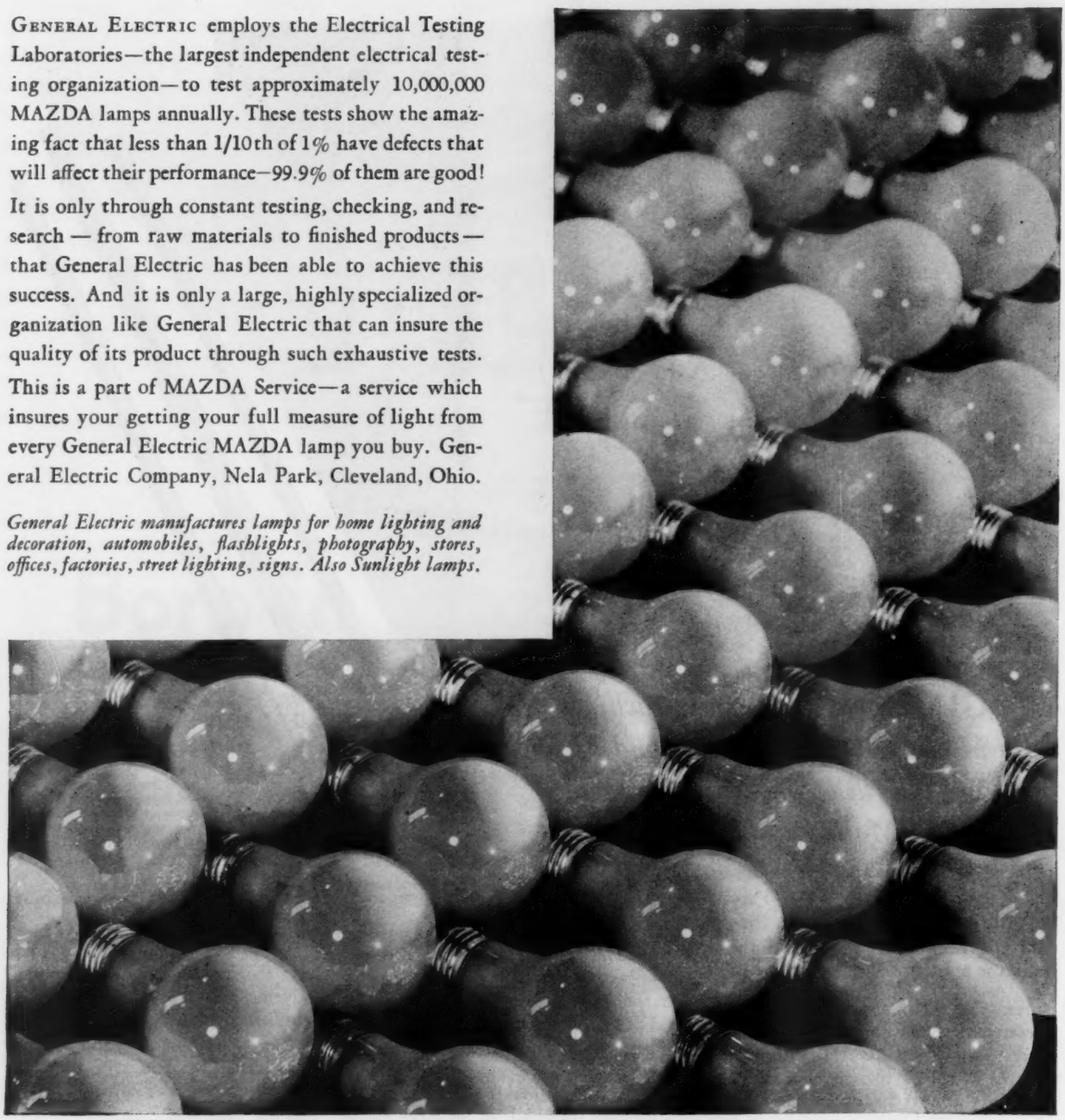
NRA CODE

99 9/10 % GOOD!

by actual tests on 10,000,000 lamps a year

GENERAL ELECTRIC employs the Electrical Testing Laboratories—the largest independent electrical testing organization—to test approximately 10,000,000 MAZDA lamps annually. These tests show the amazing fact that less than 1/10th of 1% have defects that will affect their performance—99.9% of them are good! It is only through constant testing, checking, and research — from raw materials to finished products — that General Electric has been able to achieve this success. And it is only a large, highly specialized organization like General Electric that can insure the quality of its product through such exhaustive tests. This is a part of MAZDA Service—a service which insures your getting your full measure of light from every General Electric MAZDA lamp you buy. General Electric Company, Nela Park, Cleveland, Ohio.

General Electric manufactures lamps for home lighting and decoration, automobiles, flashlights, photography, stores, offices, factories, street lighting, signs. Also Sunlight lamps.



GENERAL ELECTRIC

MAZDA LAMPS

The Taylor Slasher Control System not only wiped out its original cost . . . but showed a profit of $7,600

(This actually happened in one cotton mill*)

"HOW," you may ask, "in less than one year's time could temperature control pay for itself and even show a profit?" And what was the cost of the installation? These are fair enough questions and we will give you frank answers.

Here are the facts: A saving of 72 tons of coal, and a saving on cotton cost amounted to over $5,000. And by reducing per pound cost of cloth, through an increase in production, a saving of over $6,000. Total saving—$11,900. The installation cost about $4,000. This means that in less than a year, the Taylor System of Slasher Control showed a profit of $7,900. An amazing story in figures, but true!

Naturally, the system of temperature control that was installed in this particular cotton mill was tailor-made to fit the special needs of its slashing process. First, the Taylor Engineers conducted a survey, which resulted in their knowing exactly what was needed. Then they supervised the installation, balanced operations, and started it on its successful career.

Taylor installations of this type benefit textile mills in many ways: They assure uniform warps . . . decrease shedding . . . decrease warp loom stoppage . . . give more even cloth weight . . . and lower steam consumption.

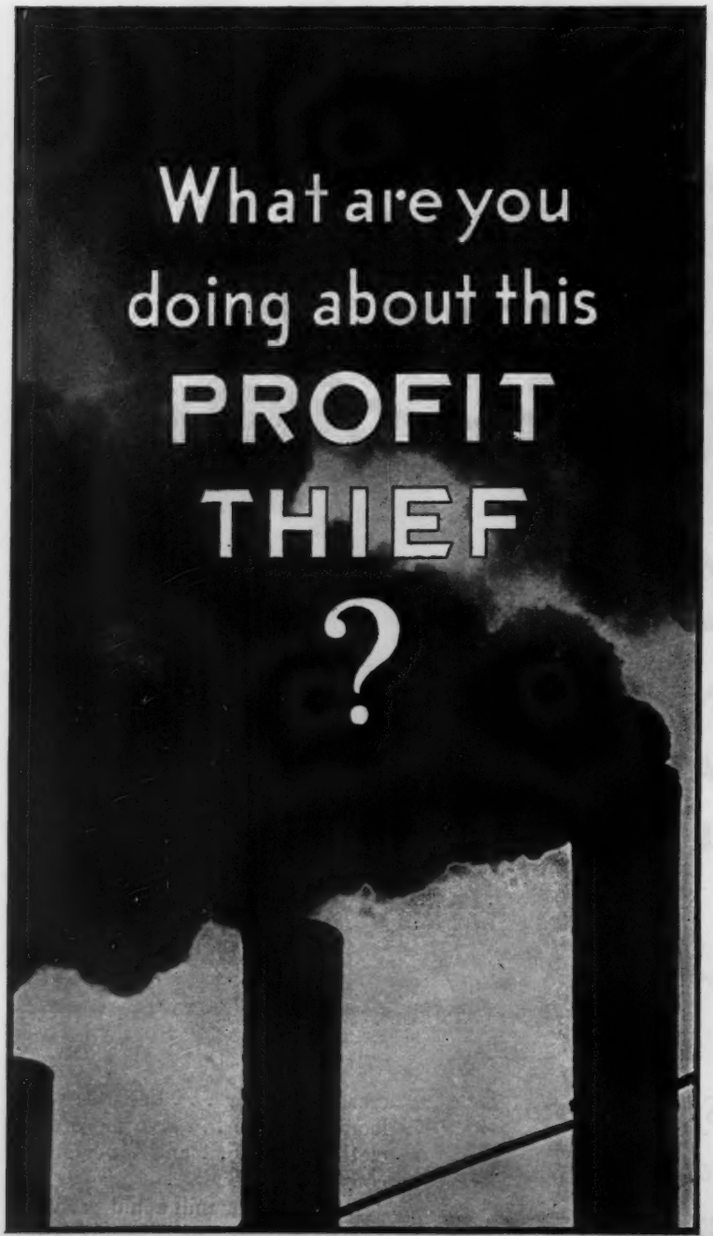
Perhaps your mill could profit by the installation of a temperature control system designed to meet your specific needs. Why not find out? Let us send a representative. He will make complete recommendations, and it will in no way obligate you. Write to Taylor Instrument Companies, in Rochester, N. Y., Atlanta, Ga., Boston, Mass., or Toronto, Canada.

**Name of mill on request*

Taylor

Indicating | Recording • Controlling

TEMPERATURE, PRESSURE *and* **FLOW INSTRUMENTS**



In any thorough study of textile mill operation, to determine ways and means of reducing production costs, the analysis of possible savings should logically begin where production begins — in the power plant.

Too many times that insidious profit thief — the waste that goes up your chimney in the form of inefficient fuel combustion — is entirely overlooked in plans that call for the modernization of other plant facilities, such as card rooms, loom drives, and finishing departments.

In the overall picture of production costs, the selection of the right fuel to meet combustion requirements is of vital importance.

General Coal Company with its strategically located properties, experienced fuel engineers, and wide range of brands and sizes, is in a unique position to make an impartial survey of your fuel requirements. There is no obligation for this service which may show you, as it has others, the way to worth while fuel savings.

Get in touch with the nearest General Coal Company office, or mail the coupon today for complete information on this free fuel survey offer.

GENERAL COAL COMPANY

BOSTON · PHILADELPHIA · CHARLOTTE, N. C.
DETROIT CINCINNATI NEW YORK PITTSBURGH
BUFFALO RICHMOND IRWIN, PA.

GENERAL COAL

DENDRON · Admiralty Coal · PREMIX · GENCO · STONEGA · DEPENDABLE ANTHRACITE · CROZER · RODA · CRITERION COAL

FREE FUEL SURVEY

GENERAL COAL COMPANY
Philadelphia, Pa.

Gentlemen:
Please send me, without obligation, complete information on your Free Fuel Survey.

Name.....

Address.....

Company..... Position.....

TYPE AA RELIANCE LOOM MOTOR

IMPROVED

A Motor to meet the challenge of the loom

WITH more material in vital spots, better quality and improved design, Reliance Motors are prepared to meet the increasing demands of loom operation for greater strength and higher efficiency.

Improved insulation gives added protection to stator windings. They have greater resistance against heat and humid conditions.

Bearing mountings are designed with protective features to keep oil in its proper place.

Rotor bars and end rings are cast of aluminum as an integral unit. There can be no loose connections.

The solid frame is rolled steel. Windings are thoroly coated with an oxide insulating compound having high heat resistance.

The solid bearing brackets are interchangeable Cap screws are readily accessible.

Bearings are interchangeable for right or left-hand operation. They are oil lubricated thru wool-yarn packing.

Bar-steel feet are electrically welded to frame

Tite-bite connectors afford positive but easy connection to conduit.

Rotor shaft is high-carbon steel, heat-treated End rings and bars of rotor are cast as one unit.

Attention has been given to providing a generally smooth contour so that motor may be easily wiped clean.

A properly balanced electrical design insures high efficiency and power factor with low power cost.

For complete details get Bulletin No. 303

RELIANCE A-C D-C MOTORS

Reliance Electric & Engineering Co.

Ivanhoe Road **Cleveland, Ohio**

Branches: Birmingham : Boston : Buffalo : Chicago : Cincinnati : Detroit : New York Philadelphia : Pittsburgh : Washington

Representatives in other principal cities

WHERE COOPER HEWITTS FIT THE JOB they turn lighting costs into profits

Cooper Hewitt lighting is not a shot-gun prescription to be employed without regard for the job expected of it. A certain few textile operations can be performed better under other kinds of light. With these few exceptions, Cooper Hewitt mercury-vapor lighting has proved through long experience the most efficient lighting that can be found (and the records cover more than thirty years and hundreds of mills of all types.)

In the processing of silk, cotton, or rayon yarn, in weaving and knitting operations, the records show that no other light equals Cooper Hewitt for turning lighting costs into profits. Not because this is a cheap way out. But because under this unique illumination, workers actually see better than under the best of daylight. And improved ability to see is quickly translated into lower operating costs through a decreased proportion of seconds, rejects, spoilage in process and time lost for repairs.

Cooper Hewitt light is composed almost entirely of the cool, yellow-green rays that are more helpful to the eye than any others in the spectrum. Its naturally high diffusion eliminates glare from yarn, fabric and bright metal parts. An equally important advantage is the absence of the intense shadows that make adjustments so difficult under ordinary light.

A trial of Cooper Hewitt lighting in some area of your mill will give definite proof of the benefits you may expect from this more efficient illumination. Such a trial will cost very little, and will place you under no obligation to purchase the lamps used. It will pay you to determine for yourself the advantages of Cooper Hewitt lighting. For full details, simply write to: General Electric Vapor Lamp Company, 853 Adams Street, Hoboken, New Jersey.

NRA MEMBER U.S. WE DO OUR PART

GENERAL ELECTRIC VAPOR LAMP COMPANY

608 Copr. 1934, General Electric Vapor Lamp Co.

Weave room in the Textile Department of Clemson Agricultural College, Clemson College, S. C. where students learn how much easier they can see to work under "Better than Daylight" illumination furnished by Cooper Hewitts.

HYDROSULPHITE A·W·C

COMPLETELY SOLUBLE SPARKLING CLEAR IN WATER

FOR STRIPPING AND DISCHARGE PRINTING

• The complete solubility of our Hydrosulphite A.W.C. gives you *visible* assurance that *no metallic* impurities or free sulphur are present—thus assuring perfect discharges, freedom from scratching, smooth uninterrupted satisfactory operation, sharp lines and thorough penetration.

ANHYDROUS HYDROSULPHITE OF SODA CONC. is offered for the reduction of vat dyes and stripping silk at low temperatures—also the following special stripping agents: HYDROSULPHITE S—for cotton and wool shoddy; STRIPPER N—a zinc stripper for wool and STRIPPER Y—Titanous Sulphate.

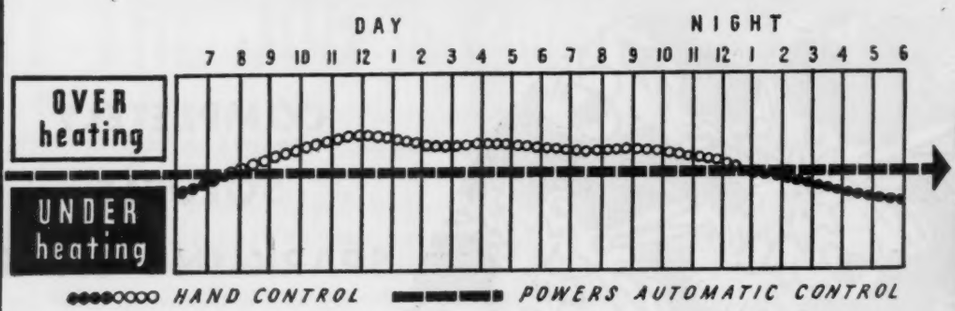
PURATEEN is our special preparation of Hydrosulphite and Gum especially recommended for printing requiring special care.

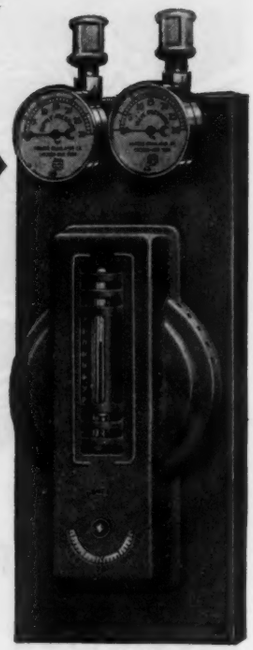
JACQUES WOLF & CO.

MANUFACTURING CHEMISTS AND IMPORTERS . . . PASSAIC, NEW JERSEY

Warehouses: **Providence, R. I., Philadelphia, Pa., Utica, N.Y., Chicago, Ill., Greenville, S. C., Chattanooga, Tenn.**

STABILIZED ROOM TEMPERATURE





POWERS
Heavy Duty
Thermostat

Often pays back the cost of **Powers Control** the first year

Cuts heating costs 15 to 40 per cent

Here are some typical reductions: Branch River Wool Combing Co. reports 25%; Walton Cotton Mill 33⅓%; Scott & Williams, 30%. Many users state that fuel savings *alone* obtained with Powers Control have paid back its cost during the first year of operation. Savings gained through eliminating OVER-heated rooms in your mill will more than offset increased fuel costs.

Stops hot and cold spots

If your buildings get OVER-heated in one section and UNDER-heated in another, use Powers Control and get EVEN distribution of heat at the right temperature in each department.

Insures uniform quality of product

When Temperature and Humidity fluctuate, the moisture regain of the material being processed varies, affecting its tensile strength and elasticity. Therefore, the uniform temperature maintained by Powers Thermostats, helps to insure uniform quality of product.

Prevents over-loading humidifiers

By preventing over-heating of rooms, which causes over-loading of humidifiers, you can get more accurate control of humidity, reduce the cost of humidification and upkeep of humidifying system.

Reduces production delays

OVER-heating and UNDER-heating of room temperatures, contract and expand material in process, as well as delicate parts of knitting and similar machines. OVER and UNDER-heating, during the night and week-end "shut-downs," and during the day are one of the chief causes of stops—troubles and delays in starting looms, spinning frames, knitting and finishing machines.

You can end most of these troubles by stabilizing temperature in your mill. Regulate it *automatically*. POWERS Control will do this for you *day and night*, year after year with unfailing accuracy and dependability. It can be easily adjusted to keep each department at whatever temperature promotes greatest efficiency.

Increases output of workers

In eliminating the discomfort caused by OVER-heated rooms, Powers Thermostats reduce colds and other ills caused by keeping rooms too hot. Employees make fewer mistakes, and their output is increased.

Often gives 15 to 25 years of dependable service without repair expense

- Simple design and Durable Construction—No multiplicity of delicate moving parts to get out of order.
- Neither the excessive heat of Summer nor the vibrations set up by textile machinery disturb the temperature adjustment of Powers Thermostats.

Phone or write today for estimate » » » there's no obligation

THE POWERS REGULATOR COMPANY

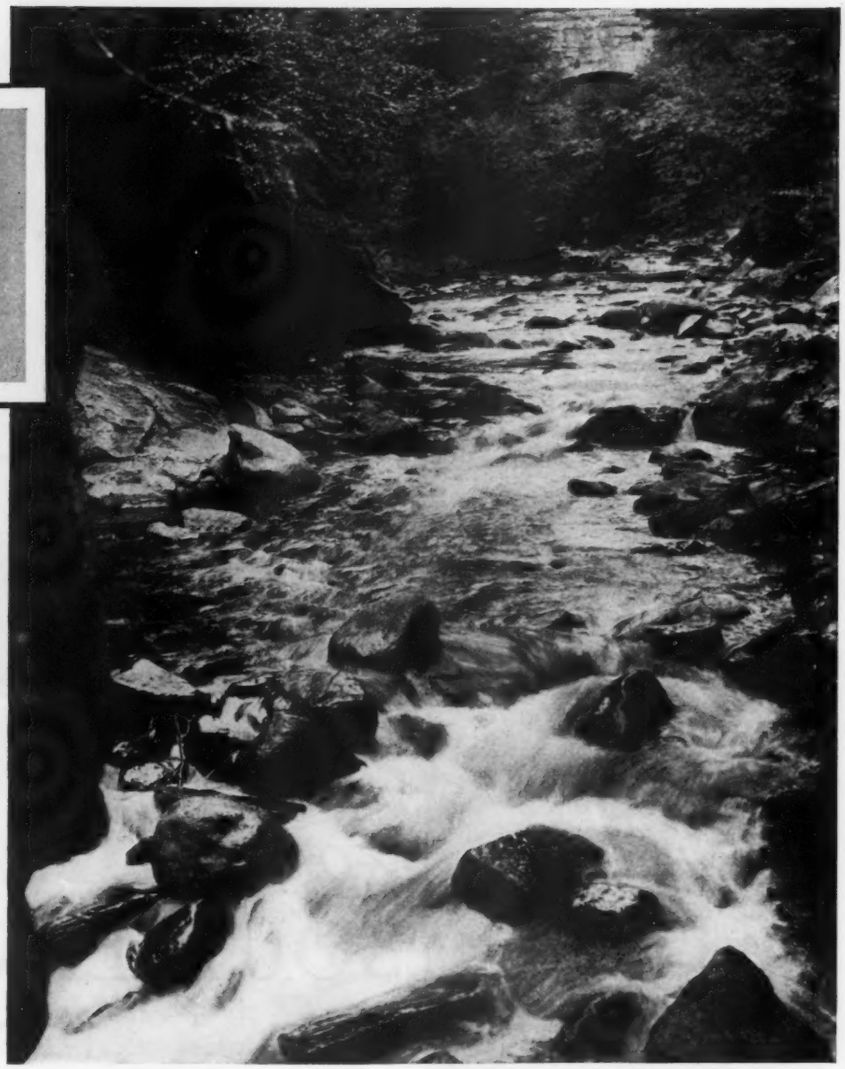
40 Years of Specialization in Automatic Temperature Control

Offices in 42 Cities—See Your Telephone Directory

CHICAGO—2739 Greenview Ave. NEW YORK—231 East 46th Street

ATLANTA—306 Bona Allen Bldg. BOSTON—125 St. Botolph St. PHILADELPHIA—Harilt Bldg.
BUFFALO—232 Delaware Ave. CLEVELAND—754 Hippodrome Annex READING—1121 No. 11th St.

SPRING WATER



but Not Pure Enough for Textile Processing

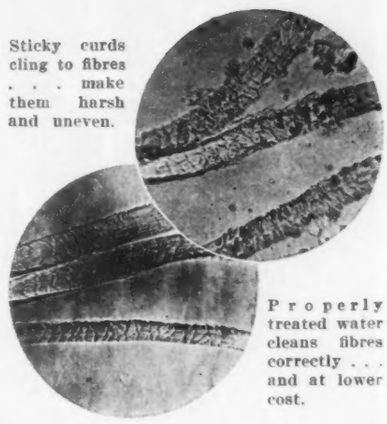
CLEAR, clean water tumbling down a mountain gorge. Is this pure water? For drinking . . . yes. For swimming . . . fine! But not for textile processing. Let your chemist inspect such water. If he were to let it stand or coagulate it, suspended impurities of silt and sand and animal waste would settle out. And his test tube analysis finds dissolved gases, harmful salts of calcium, magnesium and iron.

If your mill used this supply water it would lower the quality of your finished goods. How? Minute impurities in untreated water may cause streaky dyeing, rust spots in bleaching or high yarn breakage. But more important . . . the dissolved compounds of calcium and magnesium make water "hard", even though for ordinary purposes it seems "soft" enough. And when soap is added to hard water, harmful curds are formed with the suds. These sticky, insoluble curds adhere to the tiny fibres of cotton, silk and wool . . . and in processing, these fibres become stiff and uneven. (See photomicrographs at the right.) This harshness is noticeable in the finished goods, and spoils their quality.

Have you tested your mill water lately? Most water supplies vary in composition from day-to-day, from season-to-season. Our researches show that practically all natural mill waters must be properly coagulated, filtered, softened and perhaps even further treated to enable finished goods of high quality to be produced.

There are better than 1,000 mills now using Permutit Water Treating Equipment. These are the savings they make: reruns and rejections are fewer . . . quality is higher . . . there is a saving in materials . . . and boiler tube repairs and replacements are greatly reduced since boiler scale has been entirely eliminated. In fact, many of these mills have paid for water treating equipment by these savings within one year, almost always within two years.

It will cost you nothing to let us make a survey of your mill and recommend suitable water treatment. First, write for our booklet, "Reducing Textile Costs and Troubles". Write The Permutit Company, 330 West 42nd Street, New York City.



Sticky curds cling to fibres . . . make them harsh and uneven.

Properly treated water cleans fibres correctly . . . and at lower cost.

Permutit

Water Treating Equipment

Labels
ALL KINDS

Tickets
AS USED ON BLANKETS

Hang Tags & Bolt Ends

Stickers
FOR IDENTIFICATION AND CONSTRUCTION SPECIFICATIONS

Riders

Box Tops
FOR HOSIERY

Bands
FOR ALL BOLT GOODS HOSIERY OR SHIRTS

These are

SALES BUILDERS

For
SOUTHERN TEXTILES

NEW DESIGNS · REPRODUCTIONS

JACOBS GRAPHIC ARTS COMPANY

CLINTON · S.C.

"...we lost ANOTHER order to the Smith outfit?"

"How can it be?" the president raged; "We've got the plant . . . the equipment . . . the help—everything that Smith has!"

That's what the president thought. But he didn't have *everything!* Back in his plant, somebody had been "sold" on saving a few cents on their processing and finishing compounds. *They got the "cheaper" compounds they wanted--and lost the customer they needed!*

The case is fictitious, but the lesson is FACT! The quality of your fabrics can only be in ratio to the quality of the processing compounds you use.

ONYX processing and finishing compounds offer you everything that modern textile chemistry, four complete laboratories, a large efficient plant and a corps of trained textile chemists can produce.

Each ONYX compound is individually developed for its job. Guaranteed uniformity permits accurate control over your processes—speeds up production—reduces troubles—produces higher quality fabrics. Leading mills have found that it pays to standardize on ONYX compounds.

Our entire facilities are open to any textile mill. Test samples for any operation or fabric, laboratory assistance, personal services of our textile chemists—all are yours for the asking.

ONYX OIL & CHEMICAL CO.

Specialists on Finishing Materials.

Jersey City, N. J.

Southern Repr.: E. W. Klumph, Charlotte, N. C.

Midw. Repr.: Maher Color & Chemical Co., Inc., Chicago, Ill.

In Canada: Onyx Oil & Chemical Co., Ltd., Montreal.

Onyx LABORATORY-CONTROLLED **PROCESSING & FINISHING COMPOUNDS**

FIRST NEWS OF A SILENT REVOLUTION IN TYPEWRITING...

...THE *Silent* L C SMITH

Until now, no one has invented a typewriter that is both *Standard* and *Silent.*

We have always felt that if L C Smith ever produced a Silent typewriter it would also be a Standard typewriter. Comparatively, it would have few, if any, more moving and wearing parts than any other Smith standard machine—hence once made silent, it would *stay* silent!

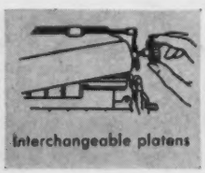
We think we have now achieved this result—and that this new Silent Smith is destined to revolutionize typewriting.

It truly earns its name Silent. But it is an L C Smith Standard typewriter through and through.

For demonstration or descriptive booklets, phone our nearest branch or write us: L C Smith & Corona Typewriters Inc Syracuse N Y

Smith Floating Shift

Ball-bearing Type Bars


Interchangeable platens

Non-glare Key Rings

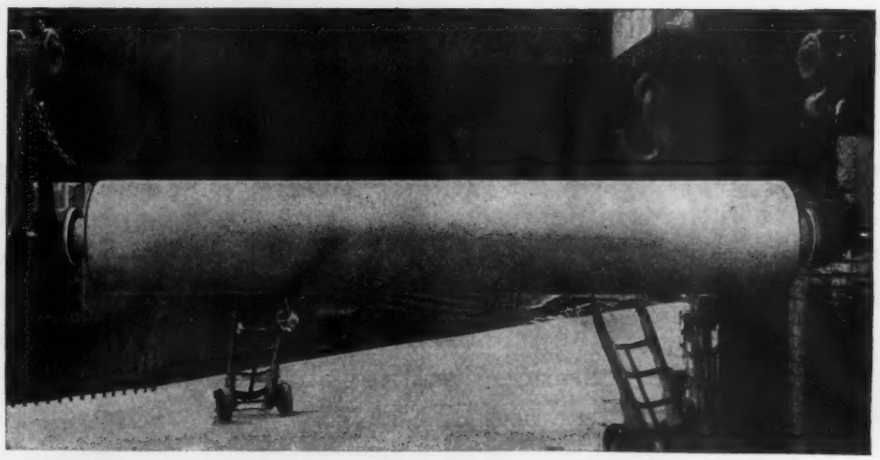
I have it
I heard it
I had it
Half-spacing escapement

Decimal Tabulator

BETTER FINISHING

is now accomplished at higher speeds

A ten-foot Condor rubber-covered bleach-house washer roll just ready for installation. Many of our rolls of this type are still in service after 10 years' use.



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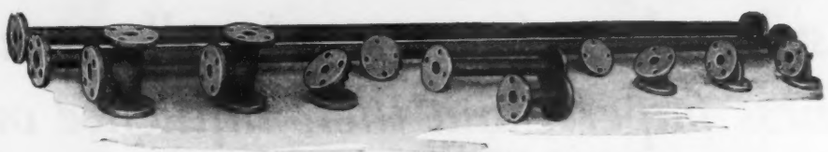
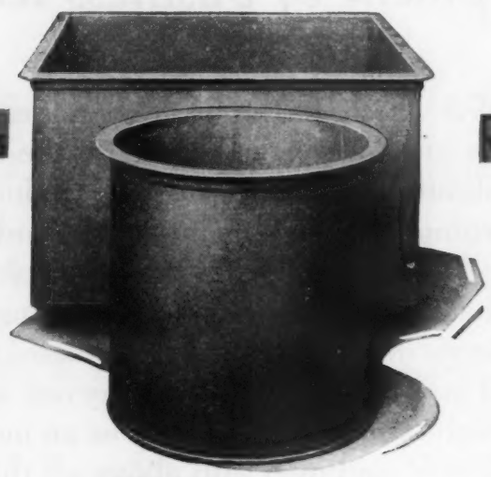


Manhattan Acid-Proof Rubber Lined Pipe and Fittings

Rubber Covered Rolls

Condor Rubber Covered Rolls are designed to meet every condition of service in the finishing of Textiles and to withstand the action of chemicals used in the various processes without loss of resiliency, durability, or efficiency. Forty-one years of rubber manufacturing have raised our rubber covers to the highest plane of perfection. . . . Condor Rolls do not surface-harden, do not oxidize, and do not change density while in use or in storage. Their constant uniformity contributes to better finishing at higher speeds.



Condor LINE

V-Belt	Fire Hose
Flat Belt	Steam Hose
Air Hose	Suction Hose
Cone Belt	Molded Goods
Acid Hose	Oilless Bearings
Water Hose	Rubber Lined Tanks

Rubber Covered Rolls
Industrial Brake Blocks and Lining

Rubber Lined Tanks

Manhattan rubber linings adhere perfectly to the metal surfaces of tanks and pipe. The life of your equipment is greatly lengthened simply by giving it a protective rubber coating. The Manhattan method of lining and covering metal can be applied to practically every shape and size. It is economical and practical. Estimates and recommendations furnished on request.

THE MANHATTAN RUBBER MFG. DIVISION
OF RAYBESTOS-MANHATTAN, INC.

EXECUTIVE OFFICES AND FACTORIES, PASSAIC, NEW JERSEY

The American Business Paper

ONE of the vital reasons for the tremendous commercial development in the United States is the American business press. The American business man, manufacturer, wholesaler or retailer, is presented each month with a veritable encyclopedia of information in his chosen field. To the schools of America, and the daily press, as instruments of democratic education must be added our business press with its specialized service.

Consider these features of well-conducted business papers, and their influence on the development of business technique

- - - NEWS which, in the business paper, means the presentation of all angles of controversial matters; the rapid dissemination of information about new or improved products; the spread of knowledge concerning shifts in personnel in an industry, so important to all concerned; the exhaustive studies of conditions and trends which show in what directions industry is moving; the co-relation of specific developments in an industry with general movements in business; the technical information which, in any one issue of a competent business paper, might amount to as much as an individual could hope to gather in a lifetime; and over and above all this detailed material is the editorial comment, sifting, comparing, commenting, searching out the basic elements, organizing the mass of news and information into compact, usable generalizations.

The American Business Paper is one of the evidences of America's willingness to learn. Like its widespread system of democratic education, the Business Paper serves an industry's need for impartial information, placing at each reader's command the same accumulation of data, for such use as he may make of it.

YARMOR
Improves
Kier Boiling Results

Kier compounds made with Yarmor Steam-distilled Pine Oil by your textile chemical manufacturer have properties that produce these superior results.

1. Spotty kier work is eliminated.
2. Color is improved.
3. Cotton wax and other extraneous materials are emulsified.
4. A saving of from 30% to 35% in processing time is effected.
5. Dyehouse troubles are reduced.

Ask your textile chemical manufacturer about kier compounds containing Yarmor.

Steam-distilled Pine Oil
Steam-distilled Wood Turpentine
Wood Rosin
Alpha Terpineol
Commercial Abietic Acid
Abalyn
Nitrocellulose
Chemical Cotton

HERCULES NAVAL STORES

HERCULES POWDER COMPANY
INCORPORATED
995 Market Street, Wilmington, Delaware
BRANCH OFFICES...CHICAGO • NEW YORK • PHILADELPHIA
ST. LOUIS • SALT LAKE CITY • SAN FRANCISCO

00-29

The VANDERBILT Hotel

New York City

Visitors

always enjoy its Atmosphere of Friendliness and Charm and its Air of Distinction as well as its Excellent Cooking and Exceptional Service . . . . Its Convenient Location, its Nearness to Railway Terminals, Shopping District, Theatres, make it the

"Handiest" Stopping-place in New York

To these Attractions add

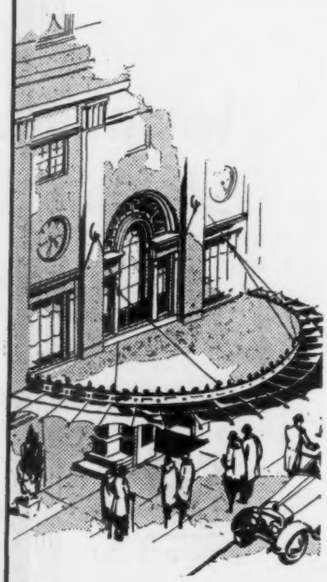
REMARKABLY LOW RATES

Single Room and Private Bath $3.00 *Double Room with Two Beds and Private Bath* $5.00

SPECIAL!
Breakfast, 75 cents; Luncheon, One Dollar; Dinner, $1.50

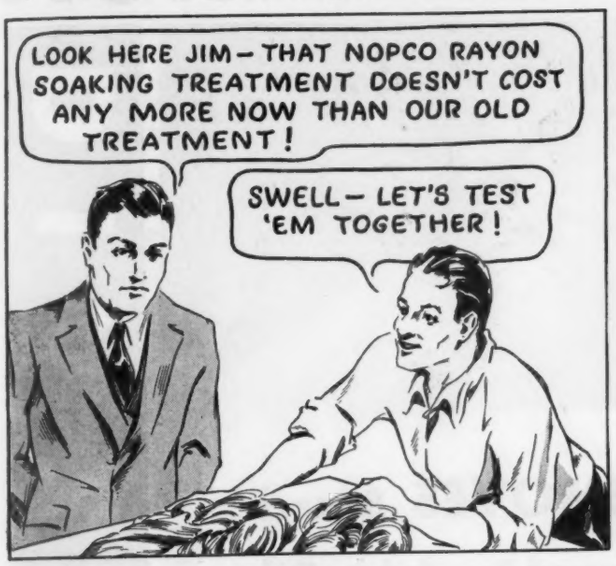
WALTON H. MARSHALL, *Manager*

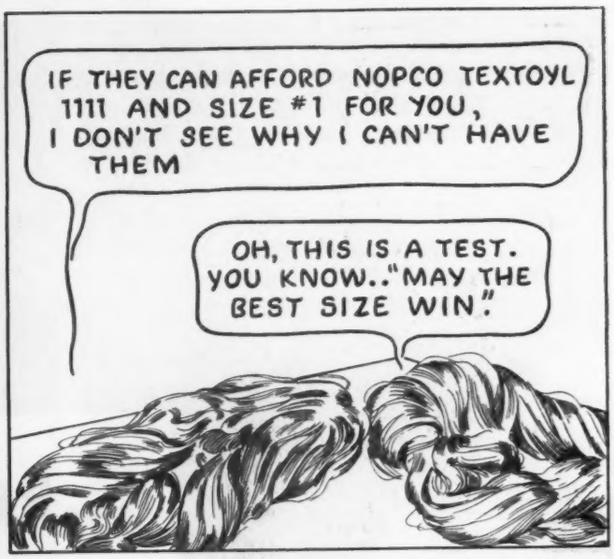
Park Avenue at Thirty-fourth St., New York.

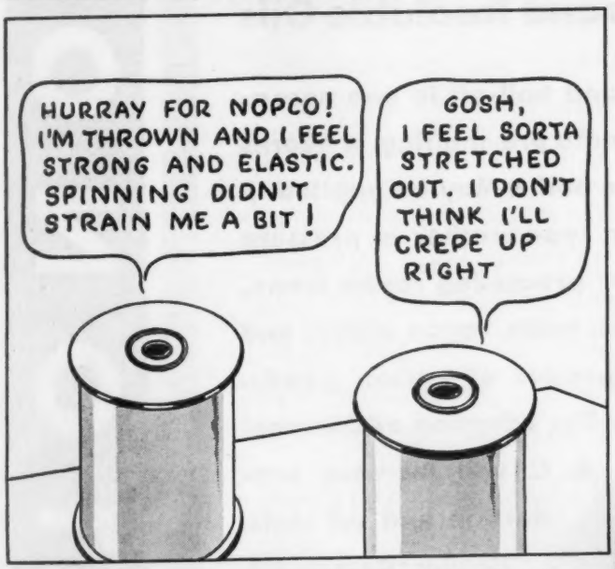


The Della Robbia Room

THIS LITTLE CREPE WENT TO MARKET


LOOK HERE JIM—THAT NOPCO RAYON SOAKING TREATMENT DOESN'T COST ANY MORE NOW THAN OUR OLD TREATMENT!
SWELL—LET'S TEST 'EM TOGETHER!


IF THEY CAN AFFORD NOPCO TEXTOYL 1111 AND SIZE #1 FOR YOU, I DON'T SEE WHY I CAN'T HAVE THEM
OH, THIS IS A TEST. YOU KNOW.."MAY THE BEST SIZE WIN."


HURRAY FOR NOPCO! I'M THROWN AND I FEEL STRONG AND ELASTIC. SPINNING DIDN'T STRAIN ME A BIT!
GOSH, I FEEL SORTA STRETCHED OUT. I DON'T THINK I'LL CREPE UP RIGHT

HEY!—AREN'T YOU EVER COMING OUT? YOU'LL BE HARSH. I FINISHED MY BATH AN HOUR AGO
I JUST CAN'T SEEM TO CREPE UP. I FEEL LIFELESS AFTER ALL THIS BOILING..WISH I'D HAD NOPCO TOO!

MORAL:

The best and most reliable treatment always gives the best and most reliable results . . . and now the cost of the Nopco Treatment has been reduced. Textoyl 1111 and Nopco Size No. 1 are best by test. Send the coupon for the NEW PRICES and our free pamphlet on Rayon Crepe Treatment.

NOPCO

Members of Throwsters Research Institute

NAME_____

COMPANY_____

C-11

NATIONAL OIL PRODUCTS CO.

Harrison, N. J.

BOSTON CHICAGO SAN FRANCISCO

IN A SINGLE OPERATION

DIAZONOL·A·C·

...REMOVES Starch Waxes and Insoluble Oils

● Desize and boil-off in one operation. Eliminate pre-malting. ● Works best at the boil — May be applied in a jig, open type washer or pressure kier. ● For processing rayon crepe, taffetas, twills, rayon alpaca and all grades of cotton goods. ● The adoption of Diazonol A. C. will increase production and cut costs.

Request Demonstration Now....

ARKANSAS CO·INC 233 BROADWAY NEW YORK

CLEAR SKIES AHEAD !!!

Business is improving, according to experts in the Textile Industry. And all signs point to---clear skies ahead!

Mill owners who hope to cash in on new orders are those who produce the highest quality fabrics. Fabrics that will completely satisfy the alert eyes and sensitive touch of buyers.

In producing fabrics that answer these specifications, it is absolutely necessary to use a de-sizing agent that will insure perfect dyeing and bleaching. A de-sizer that will do its job without injuring the delicate fibre or tensile strength of the material. Such a de-sizing agent is Diastafor---the leader in its field for 26 years.

NRA CODE

Don't take chances! Use Diastafor . . . . it's always dependable. For full particulars, see our technical expert or write to—

FLEISCHMANN'S DIASTAFOR

DIASTAFOR DEPARTMENT

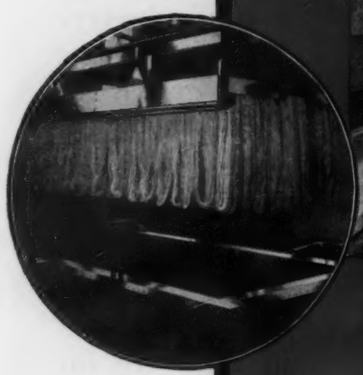
STANDARD BRANDS INCORPORATED

595 Madison Avenue New York City

Dyehouse TANKS · RACKS CYLINDERS

After seventeen months of steady service, ENDURO *perforated cylinders in rotary dyeing machines remain free from corrosion and discoloration . . . showing absolutely no loss in weight.*

Dye racks, sticks, and tanks, too, give long, trouble-free service when made from ENDURO.



-LAST LONGER WHEN MADE FROM *Stainless* ENDURO

ENDURO equipment lasts longer . . . because this perfected stainless steel possesses every qualification for dyehouse service. Its stubborn resistance to corrosion enables it to defeat attack from all colors. Its smooth, stainless surface can be quickly and thoroughly cleaned when changing colors; and this smooth surface safeguards even the most delicate fibres against injury. Being strong, tough steel, it provides the wear-resistance and long life which only steel affords. It will pay you to investigate all the advantages of ENDURO for your dyehouse requirements. The facts are available. Write Republic for complete information.

ENDURO
REPUBLIC'S PERFECTED
STAINLESS STEEL
Licensed under Chemical Foundation Patents Nos. 1316817 and 1339378. ENDURO is sold only through Republic Sales Offices and Authorized Distributors

CENTRAL ALLOY DIVISION · · · MASSILLON, OHIO
REPUBLIC STEEL CORPORATION
GENERAL OFFICES YOUNGSTOWN, OHIO

Vol. 98

COTTON

No. 11

November, 1934

W. R. C. SMITH, Publisher
T. W. McALLISTER, Editorial Director

ROBERT W. PHILIP, Editor

Contents

General and Technical—

Industry Speaks on Labor Relations; Workload Boards Created ---- 35
New Section XVII for Cotton Textile Code ---- 36
American Association Meeting in Greenville ---- 37
National Association Meeting in Boston ---- 38
Georgia Mills Conduct Advertising Campaign ---- 38
Some Opinions on the Question—Why the Flutes on Bottom Steel Rolls?-- 40
Textile Schools Work Toward Improvement of Courses ---- 42
Piping in Cotton Textile Plants, by W. C. Kirby ---- 43
Can Overseer Supervision Be Made More Effective? by Charles F. Scribner- 45
Plant Telephones Increase the Operating Personnel's Efficiency, by L. W. Burdette ---- 46
The Foreman's Place in Industry, by John F. Tinsley ---- 47

Current Textile Topics—

Talk of the Month ---- 49
Right Publicity Industry Need ---- 49
New England Mill Situation ---- 50
Comment on the Cotton Market ---- 51
What the Southern Mills Are Doing ---- 51
New Textile Equipment and Publications --- 52
Timely News Items With a Textile Slant --- 60
Personal Notes About Men You Know ---- 70
An Old-Timer Says ---- 73

How Other Men Manage—

Bobbin of Roving Analyzed, by Fay H. Martin ---- 77
Methods of Preparing Size Mixtures ---- 81
Storage Bins for a Large Variety of Filling-- 83
Opinions on Trouble in Young Man's Card Room ---- 87
"S. I. C." Replies to "Wash" ---- 89
Points on Loom Fixing (Part 6), by Ivar Moberg ---- 91
Another Experience With Worn Ring Spinning Whirls ---- 93
Textile Booklets Worth Writing For ---- 96

Knitting Section—

Press-Offs in Full-Fashioned—Their Causes and Remedies, by M. M. Abrams ---- 99
Hosiery Stock Decline ---- 100
Preventing Noise in Loopers ---- 101
More Opinions on Soap Versus Oil for Degumming; and One-Bath Versus Two-Bath Dyeing ---- 103
Helpful Hints on Standard Knitting Machine Fixing (Plate 6) ---- 105
The Knit Goods Markets ---- 113
Review of the Yarn Market ---- 120

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COTTON

November,
1934

Industry Speaks on Labor Principles; Workload Boards are Authorized

Platform of policy on labor relations adopted and distributed; Georgia mills conduct advertising campaign for general public

DURING October, as the various divisions of the textile industries endeavored to reach a balance following the disturbances of the strike, there were a number of important developments. Among these were:

Repeal by President Roosevelt of Section XVII of the cotton-textile code, and the substitution for it and the addition to the codes for silk and wool of provisions for work assignment boards to deal with work loads in these industries.

A special meeting of the American Cotton Manufacturers Association in Greenville, S. C., the second special convention in the association's history, at which important resolutions were adopted and a clearer understanding of the southern industry's viewpoint was developed.

A meeting of the National Association of Cotton Manufacturers, at which a platform of principles for industrial relations, also approved by the American association, was adopted.

More or less gradual return to activity, largely on reduced schedules, by mills throughout the industry, such resumption being governed largely by business conditions. Lack of orders prevented many mills from returning to full schedules, many plants operating only one shift.

Continued charges on the part of textile union leaders—who, however, failed to command their former prominence in the public press—that mills were discriminating against strike leaders and participants in the employment of workers in re-starting the mills.

The revelation at the San Francisco convention of A. F. of L. that the textile unions were accorded a national voting strength of 38,700 members, which appeared strangely small compared to the several hundred thousand claimed by Strike Leader Gorman during the strike.

An effective advertising campaign by Cotton Mills of Georgia published in newspapers throughout the state, presenting to the public the true facts concerning conditions in the state's textile mills and answering much of the misrepresentation that had emanated from strike leading propagandists and disseminated as "news" by the press during the strike.

A statement by George A. Sloan, president of the Cotton-Textile Institute, emphasizing that though the year ended July 31, 1934, saw an 8 per cent decrease in the volume of cotton production, the same period saw an increase of $105,000,000 in the industry's payrolls; that during the peak season of that year 140,000 more workers were employed in the industry than in March 1933, and even in July 1934, a month of exceptionally low demand, average hourly wage rates were 76 per cent higher with employment 104,000 greater than in March 1933.

The appearance—particularly in the South of investigators from the Textile Labor Relations Board, looking into charges of discrimination and other labor problems.

The beginning of a survey of the cotton, rayon, silk and wool industries by the Federal Trade Commission covering labor costs, investments and profits, in accordance with recommendations in the Winant board report.

Rumors that recommendations would be made for the removal of the headquarters of the Cotton Textile Institute to Washington.

Renewed reports that, with the immediate emergency which caused his withdrawal of his previous resignation over, George Sloan would soon retire as industry head.

* * *

These and other developments, as was true under the application of the codes of fair competition, caused and will cause much change in procedure, point of view and effect, in textile manufacturing. Some changes and influences will not of course be pleasant, others are certain to be beneficial. On the whole, textiles are showing stable, capable leadership, through the Code Authority, the Institute and the other agencies, and while this industry must in the future as in the past pay the penalty of leadership, its future, with sound leadership and with intelligent co-operation from individual units, seems secure.

Work Assigment Boards Created; "Effort" Now Used as Measure of Employee's Workload; not Machines

On October 16, following out the recommendations of his Winant board of inquiry, but making an important change in definition of workload, President Roosevelt created work assignment boards in the cotton, silk and wool industries, to operate under the Textile Labor Relations Board, and to deal particularly with workload.

The executive order stipulating the rules and regulations for these work assignment boards followed the general recommendations of the Winant report. The order calls for appointment of boards in the cotton-textile, silk and wool industries, with a common chairmen to be appointed by the Textile Labor Relations Board; with one representative of employers and one of employees on each branch board. These boards are authorized to study the actual operation of the stretch-out (or specialization) system in a number of representative plants, "including such plants as may be selected respectively by the code authority affected and by the United Textile Workers of America and such other plants as the boards may themselves select, either upon or without nomination of interested parties. The boards shall, after consultation with the employers and employees in the respective industries, and with their representatives, prepare and before January 1, 1935, submit to the president recommendations for a permanent plan for regulation of work assignments in their respective industries."

The executive order then stipulates that if such recommendations are adopted, they shall become effective, and that *unless good cause is shown to the contrary*, the methods adopted shall include substantially the principles set down in the Winant report (page 58, October COTTON), that to increase a work assignment, an employer must secure authorization from the work assignment board after filing a petition for such extension; that a period of six weeks must elapse following the filing of the petition; that hearings shall be held, etc., etc. This refers to the possible adoption permanently for work assignment regulation.

The order further indicates that such recommendations must be adopted "in accordance with the National Industrial Recovery Act".

In the code amendments creating the work assignment boards, an important change was made in defining the workload. Whereas the Winant recommendations had suggested the prohibiting of increases in the number of looms, frames, etc.—designating the workload by the amount of equipment operated—the code aemndments refer to the workload in "amount of effort" required. This, in the opinion of industry leaders, justifies the stand of textile manufacturers that (1) modern re-arrangement of work assignments (commonly known as the stretch-out) are not excessive, and are in keeping with labor specialization throughout all industry; and (2) that workable limitations based on exact number of machines, spindles, etc., could not be devised as standards, due to varying local conditions.

The language of the code amendment itself is the clearest proof of the justification of this feeling. It says: that during the period prior to February 1, 1935, no employer "shall make any change in work assignment of any class of employees which shall increase the effort required over that prevailing on September 21, 1934. During this period the number of looms, frames or other machines required to be tended by any class of employees shall not be increased where the character of the raw material, yarn, construction of cloth, preparatory processes, type of equipment used, or character of finish or put-up is not changed. Where such changes do occur the number of machines tended by such employees may be increased or decreased in such manner as will not increase the amount of effort required of the worker."

The complete text of the amendment to the Cotton Textile Code, covering the work assignment board, its duties, and limitations on work assignments, appears in full elsewhere on this page. The code amendments for the silk and wool code are identical, except that in cotton, the new text replaces Section XVII; in silk, it is added to the code as Article XIII, and in wool, it is added as rules and regulations for the administration of Paragraph 2 of Section 3 of that code.

Text of New Section XVII for Cotton Textile Code; Similar Provisions for Codes in Silk and Wool Industries

The text of the executive order of President Roosevelt of October 16 creating the work assignments board for the cotton-textile industry, and replacing Section XVII in that code, follows in full:

Amendment to the code of fair competition for the cotton textile industry.

Section XVII of the code of fair competition for the cotton textile industry is hereby repealed and the following provision shall be substituted therefor:

"XVII (1) The textile labor relations board shall appoint a cotton textile work assignment board to be composed of an impartial chairman, one representative of the employers subject to the code of fair competition for the cotton textile industry, and one representative of the employees in that industry.

"(2) In order to provide opportunity to develop a sound method and adequate organization for the regulation of work assignments, no employer prior to February 1, 1935, shall make any change in work assignment of any class of employees which shall increase the effort required over that prevailing on September 21, 1934.

"During this period the number of looms, frames or other machines required to be tended by any class of employees shall not be increased where the character of the raw material, yarn, construction of cloth, preparatory processes, type of equipment used, or character of finish or put-up, is not changed. Where such changes do occur the number of machines tended by such employees may be increased or decreased in such manner as will not increase the amount of effort required of the worker.

"Where, during the period above referred to, a mill resumes manufacture of any specific product which it has made within six months prior to September 21, 1934, and where the conditions of manufacture enumerated in the preceding paragraph are not changed, then the work load formerly used on such product shall be the guide in determining the proper work assignment.

"Where on September 21, 1934, a new style of yarn or cloth or any other new type of product was in course of introduction or is thereafter during the period above referred to introduced into a mill or finishing plant, a tentative work load may be established during the period of determining a proper work load in accordance with the foregoing principles.

"(3) Prior to February 1, 1935, on petition of any employee or employer affected, or his representative, or on its own motion, the Cotton Textile Work Assignment Board may investigate any work assignment which has been increased since July 1, 1933, at any mill and the mill shall show the reasons for such increase.

"If after hearing the board finds such assignment requires excessive effort, it may require its reduction accordingly.

"(4) The Cotton Textile Work Assignment Board shall have authority to appoint district impartial chairmen and such other agents as it may select and to issue rules and regulations to carry out the foregoing provisions of this section.

"(5) The Cotton Textile Work Assignment Board shall, subject to instructions of the president, make a study of actual operations in representative plants and report to the president as to a permanent plan for regulation of work assignments in the industry."

Southern Mill Men Meet at Special Convention in Greenville, S. C. . . .

Left, W. M. McLaurine, secretary; right, W. D. Anderson, president, American Cotton Manufacturers Association . . . . . .

On Wednesday, October 17, the American Cotton Manufacturers Association, comprising the cotton mills of the South, held a special meeting. This was the second time in the history of the organization that a special general meeting has been held, and the nature of the conditions prompting the meeting also drew perhaps the largest attendance on record, with representatives of practically every southern mill in attendance. The meeting was executive in nature, only mill men being present, so that no report of the proceedings may be made. William D. Anderson, president of the Bibb Manufacturing Company, Macon, Ga., and president of the association, presided, assisted by Secretary W. M. McLaurine. At the conclusion of the all-day session, Mr. Anderson issued a press statement, summarizing the actions at the meeting, which said in part:

Statement of President Anderson

"A large and interesting meeting of the membership of the American Cotton Manufacturers Association was held here today. There were present over 300 mill executives, representing approximately 14,500,000 spindles. The large attendance indicated the intense interest of the mill men of the South in the problems which confront the industry today, and questions from the floor and statements of mill men showed their keen interest in the developments that are taking place affecting the textile industry.

"Members of the code authority and members of special committees of the code authority who had been in recent touch with Washington explained to the meeting the more recent developments in connection with the textile code.

"After these preliminary discussions, the meeting adopted a series of resolutions dealing with problems that are to the front today in the thinking of all who are connected with the industry.

"The meeting of the association, and the meeting of the board of governors, was entirely harmonious, and the resolutions adopted were in practically all cases adopted unanimously.

"It is pleasing to state that no important differences of opinion exist between the textile executives of the South, or between members of the code authority.

"The meeting enthusiastically endorsed the Cotton Textile Institute and the administration of George Sloan, its president, and gave splendid endorsement to Mr. Sloan's handling of the recent strike situation."

The convention passed a number of resolutions on matters of importance. One was that, "since the present cotton processing tax has had the effect of an excessive sales tax on the manufacturers of cotton goods and has retarded recovery, that the American Cotton Manufacturers Association goes on record as opposing the levying of a processing tax on cotton. If the relief of the cotton farmers requires the payment of a bounty, the necessary funds should come from the national treasury."

Important Resolutions Adopted

Resolution No. 2 expressed it as the Association's opinion "that it would be extremely unwise and contrary to the interests of agriculture, labor, industry, the public and recovery, for any changes to be made in the present provisions of the code covering the maximum hours of labor and the machine hour limitation."

Resolution No. 3 protested "against the ever-increasing encroachment of the national government in the field of business and especially in the cotton textile industry; and against such activities of the government agencies as will tend to set aside the right of self-government provided for in the code and to substitute federal regulation therefor."

Resolution No. 4 dealt entirely with administrative matters.

Resolution No. 5 voted that the association "continue to wholeheartedly support the Cotton Textile Institute and its president, George A. Sloan."

Resolution No. 6 "greatly deplores the recent evidence of mob rule and violence as represented by organized flying squadrons. It is the belief of the association that it is unlawful and contrary to the guarantee of personal liberty as provided by the constitution to force, by violence or intimidation, workers from their legitimate occupations against their wishes."

Resolution No. 7 deplored the decrease in cotton goods exports during the first 8 months of 1934 of 315 million square yards compared to 1925-1929 average, placing a tremendous additional burden on the domestic market, and urged that the government in negotiating trade agreements with important foreign markets arrange so there be no further loss in exports of cotton piece goods and that the export market for cotton piece goods be regained.

During the meeting, a local newspaper published a story intimating that the American board of governors were displeased with the manner in which George A. Sloan had handled the recent strike situa-

tion. The eighth and final resolution adopted by the association stated that "the board of governors of the American Cotton Manufacturers Association here and now goes on record as denouncing the story as being unfounded and untrue," and "that the members of the board of governors and all the members of the American Cotton Manufacturers Association here and now register their wholehearted approval of and confidence in George A. Sloan."

National Association Meets in Boston; Approves Platform of Labor Principles

At its annual convention held in Boston on October 25, the National Association of Cotton Manufacturers, comprising the New England cotton mills, re-elected Ernest N. Hood, president of the Pequot Mills, Salem, Mass., as president of the association for a third term. Dexter Stevens, general manager of the Esmond Mills, was made first vice-president, and Henry G. Nichols, of the Otis Co., second vice-president.

The association approved the resolution concerning a platform of principles of industrial relations (see next column) which had the approval of the American Cotton Manufacturers Association for the southern mills, and voted to distribute it to all trade associations in the country.

The national association adopted also a resolution placing the organization on record as opposing any change in the machine hour limitation as now imposed by the cotton-textile code.

The text of the resolution with reference to industrial relations, which the American association and National association joined in approving, follows:

Industrial Relations Resolution

"The Cotton Textile Industry, believing that understanding is necessary to co-operation between employers and employees to the mutual benefit of both and to the best interests of the public, and that a clear and concise statement will further his purpose, presents below its platform of principles:

"1. Neither membership nor non-membership in a labor organization shall interfere with a man's free right to work.

"2. Employees have the right of membership or non-membership in any labor organization—a voluntary choice under the provisions of the National Industrial Recovery Act.

"3. The laws of the land should not be altered by force or edict. The industrial codes, now law, should be changed only by the definitely prescribed and orderly procedure now available and no other method should be recognized. Changes in these industrial codes by administrative edict transform a voluntary system of self-government into a compulsory system governed by authority outside of that industry. If change can be made at will by administrative edict in one term of a code, then change can likewise be made in all others—not alone for the cotton textile industry, but for all industries.

"4. The right of a man or woman to continue at his or her occupation is as fundamental as the right to strike. The employee's right to continue the occupation of his or her choice should not be jeopardized through intimidation, coercion by force, or other illegal means, either while at work or at home. Employees in exercising their choice are guaranteed freedom from coercion on the part of employers; they should be given the same guaranty from coercion from other sources.

"5. Minority groups of employees should have the right to negotiate with their employers and any provision that a majority group must be the sole spokesman for all would be unsound, untenable, and contrary to the American theory of government.

"6. The cotton textile industry, if it is to survive, must avail itself of the developments of science and invention. The application and operation of these developments depend on varying conditions requiring various programs of operation in individual mills.

"7. Strikes or lock-outs should be illegal when they are designed to coerce the government, either directly or indirectly, by inflicting hardship on the community.

"8. Representatives of organized employees should have definite legal responsibility and be required, as is required of industry, to render proper financial statements, thus being accountable to the public in their stewardship.

"9. The government should clearly define its policy in the granting of relief to people who voluntarily abandon their employment. Granting of relief, due either to a policy or a lack of policy, should not be used to start or maintain strikes. No one can question relief given to large numbers who have been thrown out of work involuntarily by the strike of a few.

"10. The duty of management to conduct the business for which it is responsible should not be obstructed by forcing a surrender of its proper function to the government or to employee organizations. Otherwise, industry is deprived of that confidence which is absolutely necessary before a return to a more normal prosperity is possible."

Georgia Mills Conduct Advertising Campaign to Public on Textile Strike

A by-product of the textile strike that holds great interest for textile manufacturers was a special advertising campaign signed by Cotton Mills of Georgia and appearing in key newspapers during and following that strike. The purpose of the campaign was to present to the general public in paid advertising space the truth as to some of the fundamental issues and developments of the strike situation, and employer-employee relationships in the mills, much of which had been confused by propaganda and misrepresentations on the part of the strike leaders.

Some of the advertisements are reproduced here as being of interest to manufacturers generally, and as indicating a policy adopted in Georgia for presenting the facts to the general public and thereby assisting in creating an unbiased public attitude toward the industry and its problems.

Ths advertising campaign was conducted by and the copy prepared under the supervision of the Johnson-Dallis Company, general advertising counsel of Atlanta, Ga., which has done similar work for Textile Mills of Columbus and the Alabama Cotton Manufacturers Association.

The first advertisement quoted from the penal code of the state, guaranteeing the right to work to those desiring to work, and from the statement of Governor Talmadge, in calling out state troops to provide protection to workers against mob violence and flying squadrons, that the right to work would be protected. Another ad discussed the "flying squadron" and effectively presented the problem of the majority of workers at a plant, desiring to work, being intimidated and threatened by outside mobs. Another, on the subject of discrimination, pointed out that "after the strike, many cotton mills reopened without sufficient orders to justify full time operation, and were therefore unable to re-employ all who were on the payroll before the strike, and were therefore being charged with discrimination. The advertisement asked the question: "Under the circumstances, whom do you think should be re-employed first—those who did not wish to strike, or the misled workers who QUIT, and by violence or threats of violence, made satisfied workers quit also? Would it not be discrimination against those who wished to continue working, to take work away from them and give it to those who went on strike?"

Another ad in the series was designed to point

out the real truth concerning advanced labor speciaization, showing that the term "stretch-out" is obviously unfair for a system which in reality increases a worker's efficiency and earnings while at the same time not increasing the amount of effort required to perform his task.

Shall Georgians be denied the right to work?

DO YOU think it fair that a misguided minority of mill workers, and others (who do not want to work), should block the gates to Georgia mills?

Do you think it fair that people should be prevented from working by violence at the mill gates and THREATS OF VIOLENCE AND INTIMIDATION OF WORKERS AND THEIR FAMILIES IN THEIR HOMES AT NIGHT?

Governor Talmadge has said "When any citizens of Georgia want to work, they have an inalienable right, guaranteed in the constitution, to do so. . . . I do not want anyone in Georgia interfering with those who want to work. . . . The right to work in Georgia will be protected."

In picketing in mass at approaches to mill property, or by threats of violence, the strikers violated the laws of the State of Georgia.

In preventing people from working, they added to the already large number of unemployed, thereby slowing up national recovery.

COTTON MILLS OF GEORGIA

(2)

The Cotton Farmer... *an innocent victim of the textile strike*

TWO MONTHS AGO, it looked like the Georgia cotton farmer was again coming into his own with higher priced cotton. Day by day he saw its value steadily mount—seemingly headed for 15c a pound.

Then a useless, unreasonable textile strike was called on September 1st.

That strike has cost the farmers of Georgia over $4,000,000.00 to date, as represented by the decline in cotton price between September 1st and now!

The Georgia cotton mills buy over a million bales of cotton a year—more than Georgia's cotton production under the Bankhead Act . . . Even at the present price, they are paying the Georgia farmer more than $60,000,000.00 a year for cotton, and paying the U. S. Government more than $20,000,000.00 a year processing tax, which tax money goes back to the farmer.

The cotton mills of Georgia provide a ready, easily accessible market for Georgia cotton. Do Georgia cotton farmers want this market destroyed due to the violence of a misguided minority?

COTTON MILLS OF GEORGIA

(3)

Discrimination? ...*against whom?*

WHEN the textile strike was called on September 3rd, most Georgia cotton mills were running full time.

After the strike, many cotton mills reopened without sufficient orders to justify full time operation, due to the cancellation of orders resulting from the shutdown and depressed market conditions produced by the strike.

The mills are therefore unable to reemploy all who were on the payroll before the strike.

Because of their inability to reemploy, immediately, all those who participated in the strike, some mills are being unjustly accused of DISCRIMINATION.

Under the circumstances, whom do you think should be reemployed first—those who did not wish to strike, or the misled workers who QUIT, and by violence or threats of violence, made satisfied workers quit also?

Would it not be discrimination against those who wished to continue working, to take work away from them and give it to those who went on strike?

COTTON MILLS OF GEORGIA

(4)

The "Stretch-out" ...*what is it?*

If the brick mason had to carry all of his own brick, he would be able to do less work in a day's time. Therefore, he has a hod carrier to bring him the brick.

If the weaver had to do every operation in connection with weaving, he could look after only a very few looms. Therefore, a helper is assigned to the simple job of supplying yarn.

THE term "stretch-out" is applied to the separation of work requiring skill from that which can be done by anyone assigned to the job. The pictures above give a clear example.

The work-load of an employee is determined not by the number of machines he runs, but by the amount of work and effort required to keep them running.

Figures of the Department of Labor and the Department of Commerce show there has been practically no increase in production per man per hour in the Textile Industry since the Code went into effect with increased wages per man per hour. The number of employees has not been decreased, although some work has been divided between the skilled and unskilled workers.

COTTON MILLS OF GEORGIA

(5)

Four of the advertisements published, in large space, in representative Georgia newspapers during and following the textile strike. These reproductions are used through courtesy of Johnson-Dallis Co., who handled the advertising campaign . . . . . .

Some Opinions on the Question--

Why the Flutes on Bottom Steel Rolls?

SUPERINTENDENTS and spinners will be interested in this discussion. It applies to card room rollers as well. . . . We are all inclined to take too many things "for granted", and while the opinions here expressed may seem repetitious and obvious, and do not offer any changes—still, we believe you will be interested in reading these comments which resulted from an apparently simple inquiry . . . . . .

SOMETIME ago an office visitor asked us to secure some expressions from practical mill men as to why it is necessary to have flutes on the bottom steel rolls on spinning frames; and why it is not practical to use a roll with a smooth surface for the bottom roll. At the time, we secured several expressions on this, which satisfied our friend. Recently, in going over the correspondence with another visitor, it was decided that the opinions and experiences expressed on this subject should be of interest to other readers, and so the correspondence is reproduced here.

On first thought, the question may appear to be a very simple one, and the answer just as simple; however, some very interesting thoughts and opinions will be found in these letters applying not only to this specific question but to other matters of interest in connection with spinning as well. We therefore suggest that judgment on the question be withheld until the following comments are studied.

A Superintendent's Explanation

One mill superintendent to whom the inquiry was submitted replied as follows:

"Several years ago I asked the same question, and I discussed it pro and con with my overseers of carding and spinning. We decided that there was only one way to find out, and that was to actually try it out, which we did. I had one side of a spinning frame equipped with smooth surfaced bottom steel rolls, and left the fluted steel rolls in the other side of the frame. We ran tests as to the evenness and breaking strength of the yarn. I have looked through my records, but have been unable to find the tests, so I cannot give you the exact figures.

"As I recall, the yarn was not as evenly drafted on the smooth surfaced roll as it was on the fluted roll, and the breaking strength was not as good. The reason it will not draft as well is, in my opinion, that with the fluted roll and a top roll with sufficient cushion, the top roll will imbed itself between the flutes of the bottom steel roll to a small degree which does not allow the top roll to slip on the stock. With the smooth roll, the same contact would not be secured, and with a stock that was a little hard to draft, an uneven yarn would be the result."

The next man replying is a practical mill agent, who relates a very interesting experience with a spinning frame on which the top rollers were made of cold rolled steel. He writes:

What a Cold Rolled Boss Did

"We had once a spinning frame which of course had the regular fluted steel rollers. The top rollers were made of cold rolled steel and the saddles were of Dixon's latest improved type. The friction between the saddles and the rollers was so great that very often, in attempting to start the frames, the top rollers simply stood still until as high as 50 per cent of the ends came down. Of course, we were very much puzzled as to why this particular frame should behave in this manner, when we could see no difference in its basic principles. We finally discovered that by replacing these rollers with the regular cast iron boss, that the frame ran as well as the others on the same work. We naturally concluded that the friction in the two cases was quite different, and even the fluted steel rollers did not dig sufficiently into the surface of the leather rollers to start them off without sufficient slippage to break the ends out. This seems to emphasize a need for frictionless bearings on top leather rollers, and since that experience I have tried many times to interest some of the ball bearing people in making just such a bearing.

"Now, if instead of the regulation fluted steel roller, we attempted to use a smooth roller, it is my opinion that we would have just such slippage with almost any type of skin covered or cork covered top roller as we had with the skin covered cold rolled steel boss. It is, therefore, my opinion that this condition was the occasion of the introduction of the fluted steel roller.

"There are two instances in the card room where rollers are used without being fluted; the calender rollers on the drawing frames and also the small calender rollers in the coiler head of the card. Of course, there is scarcely any drafting at these places, and there is very little burden put on these rollers in the way of resistance of the stock carrying through. Also, each roller of the pair in each case is positively driven.

"It might be that if a good break draft were used between the middle and back rollers on a spinning frame, that the front roller might be made smooth, provided a good anti-friction bearing were used on the top roller, or provided this roller in some way were positively driven. This positive drive of course would be difficult, because it would be necessary to have the rollers always very accurate as to diameter and cushion."

The third man who commented on this question is

one who has our very highest regard and respect as a spinning technician. He writes:

"The flutes in the rolls, to my mind, are necessary for better gripping and drafting of the fibers than could be accomplished with smooth rolls. That these flutes play quite an important part is realized when one feels the bottom edge of the flutes after several years of running, this bottom edge being the one that works against the fibers. I have reference to the front line of rolls. The bottom edge will be found to have been worn quite smooth, while the other edge of the flute will still be sharp. (To get away from these smooth edge flutes I used to take the front line off one side of the frame and hand it across to the other side, and vice versa, this change from one side to the other allowing the sharp edge of the flute to be brought into work on the cotton.)

This Man Saw Smooth Bottom Rolls

"I had to scratch my head hard to remember where I had seen smooth or unfluted bottom rolls tried out, but finally spotted the place. The experiment didn't work out well, and the funny part about it was that the smooth rolls were much harder on the top leather rolls, wearing them out in much shorter time than did the fluted rolls. I attribute that to slip, and perhaps to the fact that heavier weights had to be used to get good drafting, which probably wasn't obtained. Also, the entire surface of the leather roll made contact with the steel roll each revolution, while the flutes of course have spaces in between—that's what makes them flutes.

"Once in a while you will find leather rolls fluted from contact with an improperly fluted steel roll. While I have heard different ideas advanced as to the cause of this, mine has been that the cause is improper spacing of the flutes. A properly fluted roll, to my mind, has flutes of different depths. If the flutes are regularly spaced the effect is that of a gear, and the leather soon becomes fluted.

"Also, if the bottom and top rolls are of the same diameter, the top rolls will flute, since the same part of their surface will come into contact with the same place on the bottom rolls at each revolution. This is a rare cause, to my way of thinking."

A Machinery Engineer's Explanation

The fourth and final comment came from a technical engineer with one of the large machinery shops. He says, in answer to the question, "Frankly, this seems fairly simple. I think it rather obvious that a smooth roll would not be satisfactory because it would not draw the cotton uniformly". Then, in order to picture the situation in an elementary way, he continues with the interesting following comment:

"On the twister we use a plain roll and a plain iron top roll, but on the twister we are not drawing or feeding individual fibers. We are pulling from the creel and feeding to the thread guide and to the spindle, yarn already made. The yarn is wrapped around one or more rolls according to this or that scheme for getting sufficient friction, to avoid slippage of the yarn on the roll. The iron roll resting on the twisted yarn does not seem to injure it, and the hard twisted yarn does not groove the iron roll as it would if we were to use leather covered top rolls. I mention this to show that there is a distinction between drawing twisted yarn and drawing individual fibers, with the hope of bringing out a little more clearly what happens in the latter case.

"In drawing the individual fibers we repeatedly have to get hold of the ends of the fibers and pull them against a certain amount of resistance out of a semi-twisted mass, this being particularly true in the case of long draft. With the ordinary frame we are pulling the individual fibers out of the harder or usual amount of twist in the roving against considerable resistance.

"Now, it seems rather obvious that if you were to nip a fiber or a string or anything, between two short surfaces, you would have to press hard enough to rather jam and injure to avoid slippage in pulling against resistance. Now, supposing you had two wash-boards, one set on the top of the other, and the corrugation of one meshing in the corrugation of the other, and you were to put a string, say, along the length of those two wash-boards between where they meshed together, it would not take a great deal of weight or pressure to give you enough friction so as to prevent your pulling out that string from between the two wash-boards. I take it that the way the fiber embeds in the fluting is somewhat the same. Take the action of the metallic rolls, for instance, where the cotton winds in and out of the fluting, and where the top roll meshes into the lower and the cotton is gripped uniformly between the two rolls so meshed—yet the top roll is prevented from jamming the cotton too hard and bedding down too hard because of the collars separating them a definite desired amount.

"We have studied the fluting of the roll a good deal, and have experimented with different numbers of flutes; different widths of 'land and sea' as we call it; different angles of the side of the flute; different depths; and the finish. By 'land and sea' we refer in the case of 'land' to the width of the space on top, the original diameter of the roll between the flutes; by 'sea' we refer to the space between the 'land' where the actual flute is. The variation in the width of 'land' and 'sea', and the proportion of land to sea, is what prevents the fluting of the top leather roll. The number of flutes, the depth and the angle of the side are what gets the best grip on the fibers. If you were to examine our rolls you would find them much steeper sided than some others. We use 53 flutes in a 1-inch diameter front spinning roll with a steep side. The rolls of one machine works not now in operation used 48 flutes, very shallow, and not a steep side. The drawing of the fibers and the evenness of the yarn inch for inch on that frame never compared favorably.

"There is another factor, and that is that the evenness of the yarn depends upon the surface speed of the leather top roll being perfectly uniform and equal to the surface speed of the steel roll. A slippage there obviously causes a variation in drawing, with the obvious result. Now, the leather embeds itself slightly in the flutes, and there would be considerably more slippage if it were not for the propelling action of the flutes in the bottom roll on the leather covered top

roll. At best, there is some slippage and that is why, in part, top rolls wear out. There is an abrasion and a sliding of the cotton under the top roll, and some sliding of the roll on the fluted roll. This ought to be figured in percentage, but roughly speaking we find a slippage of about one-half a tooth. With long draft, because of the greater work required, we find about one tooth slippage. This, however, may be accounted for altogether by the fact that one tooth in forty with a high constant in draft gearing is about the same as one-half a tooth in the low constant with the low draft gearing. When you figure it that way, the percentage is not so different, but if you have one-half a tooth with a draft of 10 and a whole tooth with a draft of 16 there is a little bit of difference, you see.

"Most mills use more twist in their roving than they should, and that means it is harder to pull the fibers out of the twisted mass, and that means more slippage, more irregularity of yarn, harder influence on the fiber, and more wearing of top rolls. The reason for this twist is that the mills do not tune their roving frames, and bury the error of lack of proper tension by making a stronger roving with more twist, and the carder can brag to the head office of his product and the high spindle speed which he is running. Of course this should be within reason; there is such a thing as too little twist causing stretching and pulling out of the creel—but the average mill puts up the spindle speed for the purpose of putting more twist in the roving, and frequently has a front roll speed lower than standard. Therefore, a high spindle speed is for the purpose of putting in twist which is required mainly to permit that high spindle speed—that is a vicious circle. What I am talking about is merely that this hard twisted roving is harder to draw and requires plenty of weight on the front top roll as well as the middle and back, to draw the fibers, and we certainly would be in a hopeless condition if we did not have the fluting on the steel roll.

"We also have had cases of mills where the work was running poorly and they replaced their fluted rolls, particularly in the front line, and the work came right up promptly. This is certainly good evidence that the fluting is necessary, for the worn, smooth fluted rolls were not performing satisfactorily. The difference in the results with old worn out rolls, which look about the same at a casual glance, was very marked when they put in the new."—THE EDITOR.

Textile School Heads Work Toward Improved Courses

Photograph of textile school directors and others attending meeting in Atlantic City October 12-13. Every textile school in the country, including the two in Texas, was represented. In the photo, seated left to right: **Charles H. Eames,** Lowell Textile Institute; **Carl D. Brandt,** Texas Technological School; **E. W. France,** Philadelphia Textile School; **Edward T. Pickard,** secretary, Textile Foundation; **Fred M. Feiker,** director of the Foundation study into textile education; **Franklin W. Hobbs,** president, The Textile Foundation; **William A. Goss,** Bradford-Durfee Textile School, Fall River; **E. W. Camp,** Alabama Polytechnic Institute, Auburn, Ala.; **Charles A. Jones,** Georgia School of Technology, Atlanta. Standing, left to right: **J. B. Bagley,** A. & M. College, College Station, Texas; **Thomas Nelson,** N. C. State College, Raleigh; **J. H. Hanford,** New Bedford Textile School; **William D. Fales,** R. I. School of Design, Providence; **H. H. Willis,** Clemson A. & M. College, Clemson College, S. C.

THE textile schools of the country are making certain and regular progress. Early this year Fred Feiker reported on a study he had made of textile education in this country, during which he visited every U. S. school. (We reviewed the report in our May issue, page 51, and we still urge you to get a copy of the report from the textile school of your state and read it).

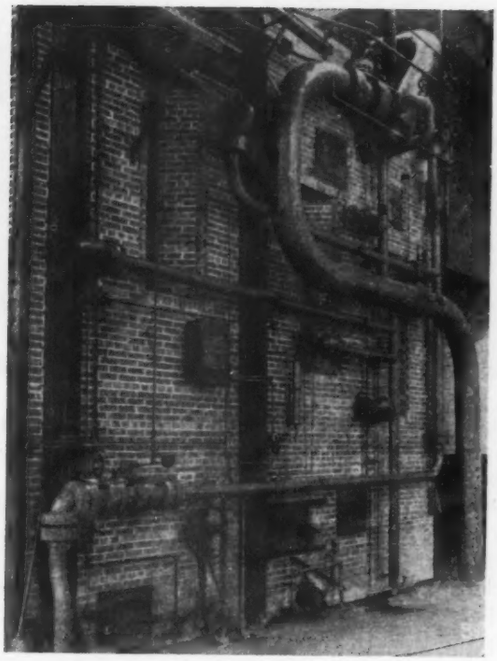
One of Feiker's recommendations was for regular meetings of the textile schools directors, under the Foundation's auspices. This was something never achieved previously, and the Foundation provided the organizing means for it. The photograph above shows the textile school representatives at their third meeting, with Foundation officers and Mr. Feiker. Every textile school in the country was represented. They will meet next in Greenville next April, during the Textile Show.

A great advantage in these gatherings is the opportunity, provided for the first time officially, for the school heads to become acquainted with one another. They have tackled together, aided by Mr. Feiker and the Foundation, the great problem of training men for the textile industry in a serious manner, and in their meetings are making strides toward improvement in their courses.

It's high time some concerted attention should be given this important phase of the industry. The Foundation has provided the means, and you'll be hearing more from its efforts. Meanwhile, give your support to your state's school when you are asked for advice and co-operation.—R. W. P.

PIPING in COTTON TEXTILE PLANTS

By W. C. Kirby
Grinnell Company
Atlanta, Ga.



THE "veins" and "arteries" of the mill's heating, humidifier and water systems—the piping—must be properly designed and adequate. Here is a practical presentation of the author's views on modern practice and equipment for this purpose, with helpful suggestions on maintenance . . . .

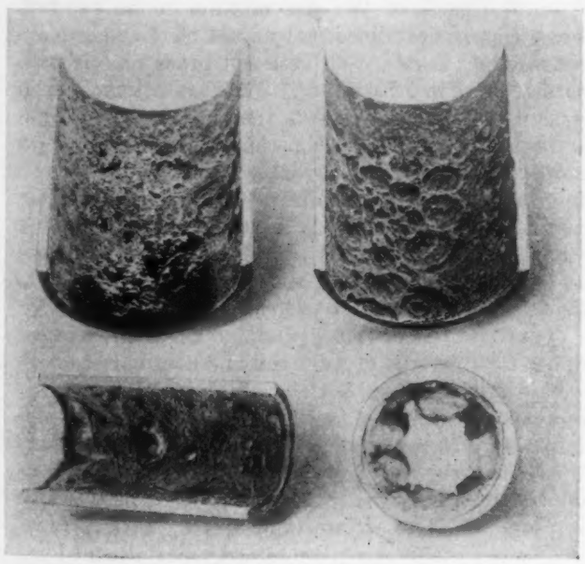
◆ ◆ ◆

A COTTON textile ring spinning mill is built almost to a standard insofar as the piping equipment is involved, and the piping that is used in the construction of this type of mill is common to other more complicated textile plants.

In this type of plant, piping is used for the following purposes: Fire Protection (outside hydrant system and inside automatic sprinklers); Heating, including boiler room piping; Domestic water piping; Ice water piping; Soil piping; Humidifier piping; Air piping and Vacuum piping for cleaning cards.

HYDRANT PIPING: This is all underground pipe, tar coated, cast iron socket pipe and should be Class "C" for sand cast or Class 250 for centrifugal cast.

AUTOMATIC SPRINKLER SYSTEM: The pipe used for automatic sprinkler systems is usually black steel pipe of standard thickness, and standard cast iron fittings and special cast iron long turn fittings where required by insurance rules.



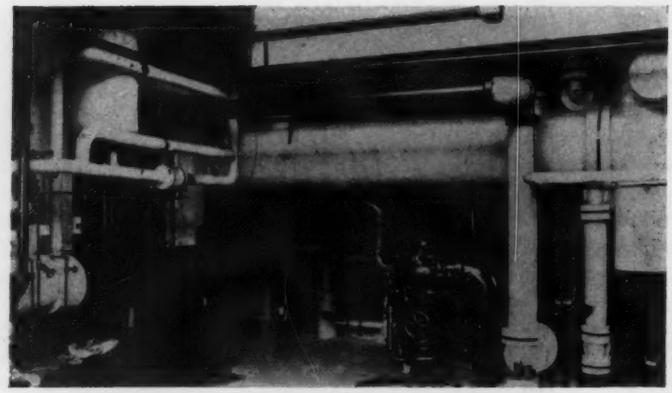
Courtesy, Asso. Factory Mutual Fire Ins. Cos.

Illustration No. 1—Corroded and clogged pipe through which water was circulated for mill service

Hydrant and automatic sprinkler piping is very seldom bothered by inside corrosion, due to the fact that there is not any circulation of water as is the case with service water lines. Since very little *new* water enters these lines, the free oxygen in the water is soon absorbed by the iron and no further corrosion occurs from this cause.

In caring for both hydrant and automatic sprinkler piping systems, it should be kept in mind that they are standby systems and must not be used for handling water for any other purpose. Illustration No. 1 is an example of what can happen to sprinkler and hydrant pipe lines through which water is circulated for mill service.

HEATING AND BOILER ROOM PIPING: The pipe used for heating is usually standard black steel pipe, which is very satisfactory in most cases. Corrosion or pitting of heating pipes will usually show first in the coils or return lines, where water is left in the pipe after steam is turned off. The most effective aid against corrosion of heating coils and lines is to have the entire heating system gone over carefully once every two years at least, to see that there are not any pockets in the lines. Each heating coil should have an individual trap discharging into an "open" return (a return without pressure) so there would be no pressure to hold condensate back from entering the return.



Boiler room piping for this type of mill would be the same as for heating, as high pressure steam would not be required.

Domestic water piping is usually galvanized steel pipe, except where genuine wrought iron pipe is used. Genuine wrought iron pipe is more expensive than standard steel and is, therefore, used only where it has been proven to have longer life. So far as the writer of this article knows, there is no way of determining which has the longer life except by actual test for the particular conditions. Galvanized pipe is used to prevent rust forming on outer surface of pipe due to cold water pipe "sweating", as well as a protection from corrosion on the inside.

(*Note:* The kind of pipe required for domestic water is a local problem; however, New England states are about the only states where kinds different from the above are required.)

Ice water piping is the same as domestic water except it is usually insulated and wrapped to prevent air circulating around the pipe, and depositing condensed moisture from the air. The wrapping should be made as near air-tight as practicable.

Soil pipe is used for drainage purposes in connection with the plumbing, and also for roof drains where they run under the ground. It is good practice to use X.H. soil pipe, although standard weight can be used for vents and at other unexposed points.

HUMIDIFIER PIPING: Standard galvanized steel pipe and cast iron or malleable iron fittings are generally used for both supply and drain lines. Where return or drain lines are run underground back to filter, X.H. soil pipe or genuine wrought iron galvanized pipe is commonly used.

AIR PIPING: Galvanized steel pipe is generally used on all air cleaning lines, with galvanized malleable fittings. Galvanized is used instead of black as a protection against corrosion from water that is condensed out of the air by compression. As a matter of interest, so much moisture enters the compressor with the air that it is always advisable to install a condenser, known as an aftercooler, to cool the compressed air so that it gives up its moisture, and it is trapped to waste, leaving dry air, which is important for cleaning.

Vacuum piping for cleaning is usually furnished with the cleaning apparatus as part of a complete system, and special tubing is most often used. Galvanized steel or wrought iron pipe is used to some extent for this purpose, and when it is used galvanized drainage long turn fittings should be used and care exercised to see the ends of the pipe are smooth. The pipe should be drifted in order to be certain that there are no inside irregularities, or that they have been removed. Be sure that vacuum cleaning lines are made tight and have a smooth interior.

Weaving mills require the same piping systems as spinning mills, and in addition such piping as is required for slashers.

Standard steel pipe is used for both steam and condensate lines. One of the problems is to get "dry" steam for the slashers, due to slashers quite often being located a long distance from the boiler supplying steam. In such cases, a steam separator should be installed in the steam supply near the slashers, and this separator should be installed on the high pressure side of pressure reducing valve instead of on the low pressure side. If this is done, steam will not only be dry after passing through the pressure reducing valve, but will be slightly superheated.

Steam headers for slasher cylinders are usually furnished with slashers, and it is common practice to install these without drainage. This should not be done, as it is important to install a separate drip through low pressure steam trap on each header. This is carrying out the idea of furnishing dry steam to cylinders.

In piping return condensate from the slashers, two things must be remembered. First, there must not be a possibility of either a vacuum or pressure on the condensate line. Second, each slasher discharges approximately 450 pounds of condensate per hour, and this hot water should be sent back to the boiler with as little loss of heat as possible. There are several makes of automatic electric pump and receiver outfits suitable for this service.

Pipe for handling size to slashers should be selected on the basis of the size mixture to be handled. Brass, copper, lead-lined, galvanized steel and galvanized wrought iron are all used but brass pipe is used more often than other kinds. Drainage fittings should be used to eliminate pockets that are made by regular pattern fittings. Such pockets allow size to form into hard lumps which may later cause trouble by getting onto the warp. Drainage fittings are not often used, as their advantage is not generally known, and it is difficult to obtain the proper sizes made of brass. My opinion is that it is better to use galvanized *drainage* fittings than *regular pattern* brass fittings.

TEXTILE DYEING AND FINISHING PLANTS: Process piping for this type of work can and does vary to such an extent that it could better be discussed in an article by itself. However, since it may be of interest, a partial list of different kinds of piping used in such plants is as follows: Standard black and galvanized steel pipe; standard black and galvanized genuine wrought iron pipe; flanged, screwed and socket cast iron pipe; brass pipe; copper pipe; lead-lined pipe; cement-lined pipe; rubber-lined pipe; glass pipe; duro-iron pipe, and aluminum pipe.

Can Overseer Supervision Be Made More Effective?

By Charles F. Scribner

TODAY'S conditions in the textile mill industry, with higher wages, shorter hours, increased cost of raw materials, and a processing tax, calls for adequate supervision in its broadest and most inclusive sense, as the fundamental responsibility of department executives.

When overseers have set each of their employees at work they have only begun their duties. To *keep* them *at work* is an obvious and minor function of what is reasonably expected from every overseer and his second hands. Overseers are directly responsible for: (1) the required quality, (2) the maximum quantity of output, and (3) the lowest possible cost at which quality and quantity can be secured.

To attain these objectives a man must be a leader and a teacher, as well as "the boss". His own work will be lighter or heavier according to the extent that he trains all of his subordinates to understand their work, and to perform it most effectively. Most strongly does the obligation rest upon an overseer to train his second hands in the essentials of foremanship—in the technique of processing; in the operation, care and upkeep of machines; in the regulation of production, and in the management of men.

Some Desirable Characteristics for the Foreman

Characteristics which it has been proven by experience as desirable that an overseer possess, are:

(1) Responsibility—for the possibilities and opportunities in the position he occupies.

(2) Capacity ———to effectively absorb and transmit knowledge and experience in promoting betterment in his department.

(3) Attitude ———of Diligence in his daily work.
- —of Receptiveness to new ideas and methods.
- —of Thoroughness in what he undertakes.
- —of Consistency in decision and performance.
- —of Firmness in dealing with subordinates.
- —of Fairness to superiors and equals.
- —of Tactfulness and consideration to all.
- —of Leadership in thinking ahead of the present moment, planning in advance, and acting according to the plans developed.

The obligation of the overseer to train his second hands in the technical phases of processing is paramount. So also is the obligation of the second hands to acquire and perfect themselves in this knowledge. The full execution of this part of the department head's duties is never finished. New things are constantly arising and a free interchange of all such knowledge among those working together as leaders of a department is a primary test of their value to the business.

No mill executive who hoards knowledge upon which successful operation depends is as valuable to the business as is the individual who freely passes along all that he knows or may learn, to all who have need or use for that knowledge.

To freely and completely interchange information among all who direct the work of a department is an equal obligation of second hands and overseer, as the obligation to receive new knowledge in good part is not less definite than to impart it in good faith. This interchange of knowledge should not be confined to overseers and second hands, but, so far as the training of workers will result in a better performance of their duties, it should be done.

The Duties: Supervision and Training

As the two major activities of the overseer and second hands are *supervision* and *training*, the proper discharge of these duties requires their constant presence on the floor. When a department executive is off the floor, something may go wrong any minute which he might have prevented had he been about the room as a patrolling supervisor.

While a man cannot be ever present everywhere on his floor, the need for this is multiplied by the number of workers and machines operating under his control. The measure of this need for unrelaxed supervision is surely all of the time of department executives, and every minute spent otherwise is an encroachment upon their most important duties.

The scope of supervision does not end with seeing that machine tenders are busy, that machines are kept in operation, that product is moving forward. To effectively supervise, the mental attitude must be one of constant investigation, and effective investigation does not stop with surface appearances, not take anything for granted.

A department executive whose concept of his duties is to set matters right when they go wrong, has not been properly trained in the broader aspects of his position. Obviously he should do this, but he should not wait for the emergency to arise. Unless he can recognize trends and tendencies and deal with troubles in their small beginnings, his value as an executive is minus rather than plus.

Constant investigation where none appears to be needed is the only sure way of keeping quality and

(Continued on page 48.)

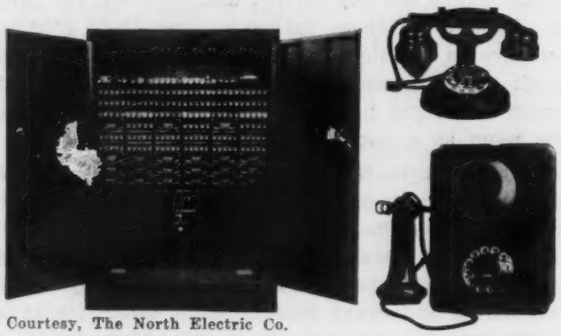
Plant Telephones Increase the Operating Personnel's Efficiency

By L. W. Burdette
J. E. Sirrine & Company

ORIGINALLY, most textile plants were small in size and comparatively simple in lay-out and operation.

The growth and expansion of many textile plants have been such that they are now spread out over large areas and several floors. These many buildings and floor levels tend to complicate their otherwise smooth operation, and are liable to render ineffective the co-operation of the several departments and the various executives and department heads one with another. Just as the modern utility telephone system has reduced to a minimum the time necessary for the transaction of certain kinds of business and has also made it easy to reach desired parties promptly, the private telephone system now has a definite place in almost all textile plants. A number of plants already are equipped with a telephone system, but many of them not yet so equipped should seriously consider the matter.

The three accompanying illustrations show a typical hand-phone, a wall-type phone, and an exchange unit of thirty-line capacity. Desk type phones are available also, as well as loud-ringing signals, etc. The hand-phone or the desk type phones are usually used wherever there is available a desk or table. The wall-type phones are usually used in machine shops, wheel houses, turbine rooms, outlying pump houses, etc.



Courtesy, The North Electric Co.

An exchange unit of 30-line capacity, a typical hand-phone, and a wall-type phone . . . .

Where the need of quick and reliable intercommunication throughout the plant is indicated, usually there are one or more phones in the main office, one in the superintendent's office, one in each main department, one in the master mechanic's office, one in the engine or turbine room, and so on. Local plant conditions dictate whether the system should be a private branch exchange rented from the town system, but locally operated; an entirely separately owned system with an operator; or an entirely automatically operated system without an operator. Usually a full time switchboard operator is a heavy expense and if this type system is adopted, it is practically useless during night hours unless a night operator is also provided. An automatic system requires no operator and is available for complete service at all hours. Another point to be considered is the fact that the majority of the men within the plant have no occasion for the use of a telephone beyond the plant itself. If calls are made beyond the limits of the plant, other than those from the main office, they are seldom on company business and this invariably cramps the service or calls for additional trunk lines to the outside at extra expense. Usually only a very few "outside" lines are needed in the average textile plant, possibly one or two lines from the main office. Each department should be supplied with a telephone to operate only within the plant itself.

There are a number of features that may be added to the basic part of an automatic telephone system, some of which are very desirable and ofttimes needed in modern textile plants.

Quite often the party called is not at or near his phone and, consequently, does not hear his call. This party can be reached very quickly by means of a "coded" signal, which is dialed by the calling party and then automatically sounded through bells, gongs, whistles, or lamps, placed at various points throughout the plant. The called party, when hearing his signal, can answer immediately from the nearest phone. This feature proves very valuable in reaching men who have duties throughout the plant, such as the superintendent and the master mechanic.

Another valuable feature that can be incorporated in an automatic system is called the "Executive Right-of-Way", by means of which an executive can always reach his party immediately regardless of whether the phone being called is busy at that time.

By means of an additional feature, the ability to hold telephone conferences can be provided. By the use of this feature, executives or managers can call several parties simultaneously and issue general orders or instructions.

Still another feature that can be had is called the "Watchman's Service Feature". An automatic recording clock can be added and the system can be used to record the watchman's rounds. Any or all telephones can be used as stations and a permanent record can be obtained of the watchman's rounds of the plant.

A typical large southern textile mill has just completed the installation of a complete automatic intercommunicating telephone system at a total cost of approximately $3100. This system consists of an auto-

matic exchange of thirty line capacity, battery and charger, thirteen phone sets, twenty-seven loud-signals, and a code call and relay. This system is providing complete intercommunication, including "coded" signals and "Executive Right-of-Way", over a fairly widely scattered system of wiring.

There are many textile plants today that have a definite need for an intercommunicating telephone system. Modern intercommunicating telephone equipment is relatively inexpensive, considering the work handled and the time saved. It is simple to operate and its maintenance is practically negligible.

The Foreman's Place in Industry

By John F. Tinsley
Vice-President and General Manager,
Crompton & Knowles Loom Works

I HAVE always considered the foreman in industry to have a position analogous to that of the top sergeant in military affairs. Like the sergeant, he comes from the ranks; he must be competent through experience and training to do justice to his position, and see to it that the men under him do likewise; he must be fair both to his employer and his workers; and if he is to be a good foreman he must have the confidence of his employer, and the confidence and respect of his men.

There is no substitute in modern industrial organization for a good foreman, because, through his unique position, he can exercise a dual responsibility of considerable importance, both to his employer and to the men under his authority. Having been selected from among his fellows because his employer recognizes in him the qualities of leadership, he is invested with the responsibility of looking after a portion of his employer's property and business, and with the responsibility, too, of reciprocating in turn the special confidence reposed in him. Thus, he becomes the most direct—indeed, the only—constant representative of his employer in intimate contact every working day of the year with the employees assigned to his charge.

From the employees' side, who is better qualified than the foreman to represent them before management? The employee wants a friendly and practical contact with his employer whereby he can take up and have adjusted simply, quickly and easily such matters in connection with wages, working conditions, etc., as are apt to come up from time to time.

In the past, however, foremen generally have not been made to fill this dual responsibility—they have not been educated to accept it—indeed, the foreman's responsibility for exercising any functions except merely "running the job" has not been emphasized. All this has been due to the fact that our industrial development of the past few decades has been strikingly along the line of new methods, whereby the individual has become not only less broadly trained but specialized, as well, to a very considerable degree. Thus, in the evolution from small shops of earlier days to large enterprises of today, the foreman has gradually become less of a manager, as many of the responsibilities that are associated with managership were transferred to others incident to the specialization and departmentalization to which I have referred.

Whatever may have been the foreman's responsibility in industry in the past, it would appear that the conditions of the future would require intelligence, knowledge and cooperation on his part more than ever before.

Key Men to Success

Considering, as I do, that foremen are key men to the success of an industry, it has, therefore, been a definite part of our operating policies to give to our foremen all the instruction and guidance necessary to make them appreciate fully the position that their management desired them to assume in order that they might function to the fullest extent.

In the furtherance of this effort, we have found the following to be valuable in meeting the situation:

1. Weekly conferences between general manager, superintendents and all foremen.
2. Foremen instruction courses when necessary.
3. Foremen management reports.

Weekly Conferences—For many years, I have made it a practice to set aside half an hour each week for a conference with all our superintendents, foremen and assistant foremen. These are frank, informal gatherings. We discuss the production schedules and other routine matters and then it is my habit to talk to the group about the condition of business and any particular problem of the moment that may be confronting us, and from time to time general economic problems are considered. Only political questions and discussions are barred from these meetings.

I recall that when these conferences were started, some of my subordinates were aghast at the thought of my telling the foremen what they considered intimate details of the company's business.

These conferences (1) establish a normal, friendly meeting weekly between a high executive officer of the company and the foremen; (2) provide an opportunity for the general manager to tell directly to the foreman organization the company's problems; (3) provide an opportunity for impressing upon the foremen the fact that their superiors in the management have full confidence in them.

Reprinted from September 1934 Executives Service Bulletin of Policyholders Service Bureau, Group Insurance Division, Metropolitan Life Insurance Company.

My experience with this treatment of foremen has been highly satisfactory. The foremen appreciate being taken into the management's confidence and in being advised authoritatively in regard to the company's business and problems.

Foremen Instruction Courses—From time to time, as necessity warrants, we have conducted instruction courses for the benefit of our foremen in order that they might handle the problems of their departments more intelligently. It must be expected that most foremen, coming from the ranks as they do, have not had a very good grounding in cost accounting and it is, therefore, necessary that special instruction be given along these lines. The last course of this kind that we conducted for our foremen covered (1) General Economic Principles as Applied to Industry; (2) Relation of Production to Costs, and (3) Labor Turnover and Its Effects; (4) Machine Efficiency and Its Relation to Wages and Production; (5) Overhead, and (6) What Constitutes a Financial Statement of a Manufacturing Concern.

Foremen Management Reports—A reliable method to enable management to appraise in detail the performance and standard of their foremen is highly important. An efficient method of appraising foremen will enable management to see "minus" performances clearly, to promote foremen on merit, and, in general, to create means and methods for securing improved results.

From the standpoint of the foreman himself an appraisal method of rating him at regular intervals gives him a better appreciation of his responsibilities and opportunities and enables him to get an accurate picture of himself and his efforts in the plant management program.

Concretely, in our own business, we have found a comparatively simple and effective means of appraising foremen annually. In doing this we get out a report for each foreman's job and term it a Foreman Management Report to emphasize its and his function in the management of the business.

Reports on Financial Basis

In accordance with this idea, we have figured out a financial basis for the report of each man, his portion of the business, so to speak. Based on floor space occupied, we pro-rate to each foreman the value of plant, machinery, tools and equipment, as represented on the company's books. This, with his own direct labor and shop overhead attributable to him, makes up his year's business. Thus, we bring to each one a definite conception of the financial responsibility that is in his keeping. It is surprising what a different appreciation a foreman has of his job when he knows the money value represented by it. We have a large number of foremen whose annual business volume, figured as just described, runs from $100,000 upwards.

This method of rating each job naturally gives an unusually favorable opportunity for educating the foreman as to the problems of business management, including a knowledge of costs and simple cost finding, overhead, labor turnover, the importance of quality, the use of equipment and the planning of operating schedules so as to give the maximum of efficiency.

A standard of credits has been established and a committee goes over each foreman's report and rates him strictly on performance. The rating is established on: (1) Quality; (2) Production; (3) Handling Men; (4) Costs; (5) Initiative, Administration and Improvements.

His rating on Item No. 5 is based on his attitude, adaptability, and energy, as well as any special ability he may have in initiating new and progressive steps.

This report is sent to the superintendent and a copy to the general manager, who notes the comparison with previous years and writes his observations of the foreman's accomplishments, which always include recognition for improvement, and points out, without being too critical, opportunities for further progress. In turn, the superintendent and his staff and the head of the shop cost division, go over with each foreman his report in detail, outlining opportunities for action.

Our results for several years with this method have been gratifying. We know that our foremen, through this agency, appreciate the importance of their problems as never before.

In general, we feel that everything that we have done to increase the store of knowledge on the part of our foremen as to the needs of their jobs and in building up mutual confidence between the management and themselves has been well worth while.

Can Overseer Supervision Be Made More Effective?

(Continued from page 45.)

quantity at high levels and cost down to "bed rock". The "thinking" overseer and second hand will be of greater value to the business than one who dons overalls and jumper. By this is meant that the man filling either of these jobs should work with his head rather than with his hands.

To rightly investigate, a department executive may have to get into dirty places without hesitation or delay, but he should not yield to temptation and make a repair man or operative of himself. If he spends time to do more than investigate, other matters may be going wrong which he might have prevented by more thorough supervision.

The overseer or second hand who is trained to look upon his position as one of trust, feels that he is in business for himself. He should, in all things, act as if his own money is at stake in the enterprise.

As a matter of fact, his money *is* at stake, for the real value of services determines compensation more than other considerations. The contribution to the earnings of the business made by a smoothly operating department, working at maximum effectiveness, fixes an unquestionable standard of value.

Overseers and second hands are as much members of the executive division of a mill organization as is the superintendent from whom they derive their authority. As such executives, their responsibility for supervision is only exceeded by their responsibility for teaching and training those working under them.

CURRENT TEXTILE TOPICS. . . .

Talk of the Month

AMONG the essentials that stand out in this era of groping toward a practical basis of business is the right presentation of industry's position to public attention. The cotton industry by general admission was first ready to co-operate with the government in the NIRA program, but even in so moving it was subject to misrepresentation in the broad discussion about elimination of child labor. Then came this year the bruiting of reports about reduced wages and the notorious "stretch-out". Organized labor has a way of getting its case, true or garbled, before the public and for the most part in the past industry has been the goat for varied forms of misrepresentations, not only from unionists looking for sympathy but from "sympathetic" socialists, reformers and communists.

Right Publicity Industry Need; Variety of Misrepresentation

Whatever the evils of an earlier period, the cotton industry did not have a child-labor problem at the start of the emergency, because the leaders had learned the disadvantage of such employment. But the public did not know this. Nor did it know, although the President was informed, that the cotton industry before the emergency had essayed through the Cotton Textile Institute a controlled production schedule and was 85 per cent committed to it. If the rest of the industrial community had been as ready for quick adoption of the Nira, the cotton industry presumably would not have suffered the irregularity coming to it in the past fifteen months.

Getting ahead of other lines, cotton manufacture has suffered from the inability of the recovery program to keep pace. Yet in the face of its higher scale of wages and wider employment of operatives, the industry has been subject to charges of abusing workers when it curtailed hours to avoid ruinous surplus of production: ruinous to the workers as well as the mill owners. The U. T. W., in spite of its uncertain and only partial hold on the textile workers, had a bigger hearing than the industry itself previous to the strike, albeit the publicity was not favorably received for the reason that under the present conditions of government participation in business the situation obtaining in industry automatically had received more publicity.

If, as it appears, the organized cotton industry learned a lesson from the strike in this regard it should profit therefrom. The misrepresentation of labor did not stop with the makeshift solution of the strike. Many workers went back to machines under the impression that their leaders had gained such points as the creation of a thirty-hour week. The U. T. W. by its organized publicity seems to have swayed government opinion into belief that it has been the chief representative of the workers in the textile industry though even now it is striving hard to gain domination therein. The expression of sympathy by Secretary Perkins with the plan of President Green of the A. F. L. for "adequate" representation of labor on code authorities is significant.

Something of a new confidence seemed in the air on the change of front in regard to the NRA, with a defection from the intolerable conditions of experimentation, finally recognized as leading up against a stonewall of uncertainty. The cotton industry wants less domination of business by the government and this is a step forward. On the other hand it does not want a turn to the right that will endanger the sound practices contingent upon government supervision. The first principles of the NIRA program are realized to be imperative to the progress of the industry, viz., a force for regulation of production, both in hours of work and hours of machine running. A relaxation of production control indiscriminately would work irreparable harm in this branch of industry.

Between organized government and organized labor, organized industry must work hard to maintain self control and sound conditions. While the government is shifting its position, there are plans in the wind that appear unsound to private industry and unfavorable to public interest. Notable is the order of the President that the cotton garment industry go under a 36-hour week without reduction of weekly wages beginning Dec. 1. A reaction upon consumption, and consequently upon work and real wages, is believed unavoidable. The government action enforcing 75 per cent of scales in different industries for underprivileged also is considered impractical and has hit those whom it was intended to benefit. There appears to be a field for enlightening government officials where they seem to be ill-advised.

Another of the serious matters that came to a head in the past month was the petition by members to the National Association of Manufacturers against the operation by the government of emergency-relief plants. The directors of the National Association of Hosiery Manufacturers had previously adopted a resolution against such direct federal competition with private industry. Aside from the proverbial lack of economy in federal work compared with private, it is obvious that to relieve unemployment by such means is to create new unemployment in competing plants when these are producing sufficient output for all needs.

Textile business had no immediate spurt following the strike. The hesitation in business through the early fall was an offset to such reduction of stocks as might have created real shortages except perhaps in special seasonal lines. However, the distribution of finished merchandise began to give much better promise early in October and general business sentiment improved as Administration officials indicated a transition under which industry could operate on more

definite and practical conditions. Given further relief from restrictions such as have hampered readjustment of the durable goods industries, a well rounded recovery would be in process. Not even the government can force investment, any more than it can force consumer buying, hence conditions for both must be made attractive to promote investment and buying.

Once more before the industry has come the perennial problem of style piracy and the converters of wash goods have been considering a bureau of design registration for their spring ideas. This plan involves the question of ethics and by so much contains an element of weakness. In the wool branch, meanwhile, has developed another move which will be watched by textile men generally for its effectiveness and possibilities. This is the issuance of a design patent on an original wool fabric, which has been hailed as a development of the utmost importance in the long fight against piracy of weave and design.

New England Mill Situation

EXPECTATIONS, or hopes, of stimulation to demand from the September strike were not realized here late in October. The disorganization of values which immediately followed the return of workers was one delaying factor, this contributing to hesitancy of buyers for many weeks, although spotty activity in the middle of activity was sufficient to show a fundamentally stronger market and to create new expectations of a broadening demand for cotton goods. The movement of raw cotton to mills during the month showed a tendency toward considerable expansion from a very low level, but forwardings to this district for the season to date are far below the total of previous seasons.

Fall conditions in general have been disappointing, except for the retail trade in various directions. The lasting benefit of this business, too, has been viewed askance because so much of it depends upon government expenditures which have failed to stimulate the recovery of private industry at large. Cotton manufacturers with other business men have suffered from the prevailing uncertainty as the activities of Washington have dominated but not advanced the recovery in a way to establish confidence to go ahead with reasonable speculative operations. Something to unleash the strangling capital goods industries in addition to production of consumer goods is grievously needed.

In view of the quiet trading through the fall, labor in New England to some extent has lost doubly by the strike. The subsequent lack of employment through slow sales of goods has come on top of orders actually when mills could not fill orders actually in hand and these drifted to other sections of the industry which got back to work first. Manufacturers were not deluded into belief that the makeshift truce was an end to trouble, incidentally, and they faced complications immediately from the fact that some workers at least were themselves deluded into thinking that the union demands were granted. This situation, the government order on work load and the political play ahead for a 30-hour week leave the labor question still much in the air.

Much attention was called in this district to the elaborate program that was instituted by the Federal government to prevent "bootlegging" of cotton for enforcement of the Bankhead restriction law on the crop. This brought several agents into New England for tagging all cotton in the warehouses. This may not mean a direct increment in the cost of cotton manufacture to the mills, as in the case of the processing tax, but it certainly is another item in the piling up of bureaucratic expense which must be counted at least indirectly in the consumer charge. Incidentally, the talk of the burden of the processing tax will not down. A New Bedford paper finds it "an obstacle to changes in hours and wages" that might be allowed mill workers.

Attention also has been called in this district, by Frederic C. Dumaine, treasurer of the Amoskeag Manufacturing Company, to the threat of the Japanese in the textile trade even of our own country. He cited exports of cotton fabrics to this country of 1,300,000 yards in the second quarter of 1934, against 5,000 yards the same period of 1933. It is significant that exporters of the country have recently taken up with Washington the matter of protection against Japanese competition in Central American countries, but that is not so striking as the threat to our very own domestic market. New England also has cause for concern in reports that the Japanese even are getting the textile machinery business of the Orient, where the cotton industry is growing while it decreases in other world sections.

Textile men, first in the co-operation with the Administration under the NRA and long reluctant to offer adverse criticism, were stung into active protest by the executive order from President Roosevelt in the middle of October regarding the inquiry of the Work Assignment Board. Typical of the general attitude was the statement by Ernest N. Hood, president of the National Association of Cotton Manufacturers at Boston, that "the executive order has virtually written the report of the committee before the committee is in being". The order indicated that the unions certainly had gained the ear of the Administration and prejudiced sentiment on the textile industry. As Mr. Hood said further, whatever the merits of "principles" laid down by the President, "a committee should start unhampered if its report is to be more than a directed verdict".

New Bedford is showing instances of broadening activity through R.F.C. assistance. The Booth Manufacturing Company is the latest to get a loan. The company some months ago installed much rayon equipment, but needed money for working capital and secured $300,000. This means work for many hundreds of operatives. The Taber Mill previously had secured a loan. Another in New England is the Barnard Manufacturing Company of Fall River.

The Manville-Jenckes Company has announced the sale of all equipment in the Globe Mill, Woonsocket, R. I., to Walter E. O'Hara, treasurer of the Textile Machinery & Supply Company, of Fall River. The mill contains 39,024 spindles and 294 looms, but has not been operated since 1930. Mr. O'Hara's firm has dismantled 25 plants liquidating in New England in

recent years.

One of the units in the cotton plant of the Great Falls Manufacturing Company, at Somersworth, N. H., is now being operated as a federal relief project. The No. 1 mill is employing 100 men and women who were idle for months, on the manufacture of mattresses.

COMMENT ON THE COTTON MARKET

New Orleans, October 15, 1934.

UNTIL of late the trend of the cotton market remained downward. Settlement of the textile mill strike, and the somewhat smaller than generally expected government crop estimate, together with the sharp falling off in ginnings for the period—September 16 to October 1, compared with last year, caused a temporary bulge in values, but the advance attracted liquidation and hedging, and the market turned downward again, recently making new "lows" for the downward movement; the result of talk of probably a larger acreage next year, the weakness in sterling exchange, and the late unfavorable European political development; the assassinations at Marseilles. The technical position of the market, however, after such a long period of liquidation, became healthier, and because of values being lower than the 12-cent loan level, with more rain to the east of the Mississippi, and revival of inflation talk, President Roosevelt having stated recently "prices should go higher," the market recovered sharply and quickly towards the end of the period under review. Subsequently values experienced a little setback owing to smaller consumption of American cotton and President Roosevelt having explained later that the administration has no immediate plans for further dollar devaluation or currency inflation.

GOVERNMENT COMPARATIVES

	This season	Last season
Acreage for harvest, acres	27,241,000	29,978,000, final
Average condition of crop, Oct. 1st	55.9	66.7
Indicated average yield per acre, lbs.	165.9	208.5, final
Indicated production, bales of 500 lbs. gross wt.	9,443,000	13,047,000, final
Ginned to October 1st, running bales	4,958,000	5,908,000
Ginned to September 16th	3,131,000	3,102,000
Ginned from Sept. 16th to Oct. 1st	1,827,000	2,806,000

On the basis of the government crop estimate and ginnings to October 1st, about 52.4 per cent of the crop was ginned to October 1 versus 46.7 last year, 38.0 year before last and 32.5 in 1931. It is evident, therefore, that this crop, as a whole, is being ginned in record breaking rapidity. Last year to October 10, Texas had already ginned as much as this year's Texas crop points to—2,345,000 bales versus 2,344,000, the total Texas crop last year having been 4,220,000 running bales.

CENSUS REPORT

United States— Bales—	This season	Last season
Consumption of lint in Cotton Growing States, September	243,000	401,000
In New England States, September	33,000	83,000
In All Other States, September	20,000	15,000
In United States, September	296,000	499,000
Consumption of lint in Cotton Growing States, 2 months	579,000	866,000
In New England States, 2 months	105,000	188,000
In All Other States, 2 months	32,000	34,000
In United States, 2 months	716,000	1,088,000
Mill Stocks, September 30th	1,057,000	1,160,000
Stocks in public storage and warehouses, September 30th	7,616,000	7,376,000
Stocks in mills, public storage and warehouses, September 30th	8,673,000	8,536,000
Active spindles during September	22,113,000	25,993,000
Active spindles during August	24,154,000	25,926,000

BRITISH BOARD OF TRADE REPORT FOR SEPTEMBER

	This year	Last year
Exports of yarn, pounds	10,000,000	12,000,000
Exports of cloth, yards	178,000,000	163,000,000

The much smaller consumption of cotton in the United States during September, as compared with September of last year, was due largely to the recent strike in the textile industry. Returns for October, due next month, will likely make a much better showing.

While no encouragement is to be derived from the British Board of Trade report for last month, as regards exports of yarn, shipments of cloth were rather good, but much of the yardage probably represented materials made from outside growths since England and all of Europe are increasing the consumption of foreign cottons at the expense of American.

According to the New York Cotton Exchange service, the world's consumption of American lint during August was about 979,000 bales versus 1,262,000 for August of last season, and of other kinds 921,000 against 917,000, all kinds amounting to about 1,900,000 versus 2,179,000.

As yet sales of raw cotton in the South continue comparatively light, exports from the United States, including Canada, remain small, from August 1 to October 12, only 975,000 bales versus 1,760,000 for corresponding period last season, and spinners takings thus far this season, for the same period, were only 1,914,000 bales against 2,871,000 for the corresponding time last season. Such developments, however, have not had much influence on values thus far, as it is realized that much probably depends on Washington's future policy as to possible further inflation and acreage control next year.

WORLD'S VISIBLE SUPPLY OF COTTON, OCTOBER 12TH

Bales—	This year	Last year
American	6,844,000	8,143,000
Other kinds	1,985,000	1,506,000
All kinds	8,829,000	9,649,000

As to the future, regarding the administration's policy as to the possibility of further inflation, President Roosevelt was quoted recently as saying: "What the future holds, cannot be foretold definitely at this time, that it depends on economic conditions during the coming months."

Meanwhile private advices from the interior are to effect that a great deal of this year's crop is passing into the hands of the government because of the inducement offered by the loan plan. This year's crop promises to be a very small one, smaller perhaps than any production, with the exception of 1921, since 1899. The government is in possession of a large portion of old crop cotton, and if it is to come into control of much of this year's small crop, as seems probable, a very large quantity of this season's supply is likely to be held off the market in the hope of obtaining a better price later on.

WHAT THE SOUTHERN MILLS ARE DOING

ALABAMA Textile Corp., Andalusia, Ala., are making extensive repairs, and increasing storage space, and will build a two-story building to be used for laundry purposes.

Fuller Hosiery Mills, Carrollton, Ga., have purchased elastic braiders and will operate a braid plant.

Collins Mfg. Co., Asheville, N. C., formerly Martel Mills, have resumed operations and are installing additional equipment. Mixed yarn of wool, rayon, mohair, rabbit hair and alpaca, for women's dress goods and hosiery, is being manufactured.

Double Shoals Mill Co., Double Shoals, N. C., have been granted a charter with an authorized capital of $50,000. A. W. McMurray, J. Tom Moore and C. C. Blanton, all of Shelby, are the incorporators.

At the Draper-American Mill, Draper, N. C., practically all of 46 new spinning frames have been put in operation.

Lola Mills, Inc., Stanley, N. C., recently purchased by R. F. Craig and associates, are installing new machinery. James A. Bangle is president; I. E. Craig, active vice-president; R. F. Craig, treasurer, and R. M. Craig, secretary.

Crawford Mills, North Wilkesboro, N. C., established by J. M. Crawford, has purchased a plant at Radford, Va., which has been moved to North Wilkesboro, for manufacturing half-hose and anklets.

Miller-Smith Hosiery Mills, Chattanooga, Tenn., have purchased the property of the Etowah Knitting Mills, Etowah, Tenn., which has not been in operation for a number of years, and will start operations when new machinery has been installed.

Crescent Hosiery Mills, Niota, Tenn., have purchased the machinery of the Williamsburg (Ky.) Knitting Mills, for anklet manufacture, and moved part of it to the Niota plant.

O. V. B. Knitting Mills, Spring City, Tenn., recently organized by Joseph A. Slizer, Harry T. Burn and Otto V. Burn, have taken over the plant of Morgan Mills, Rome, Ga., manufacturers of half-hose, women's hosiery and anklets, and will move the equipment to Spring City for operation.

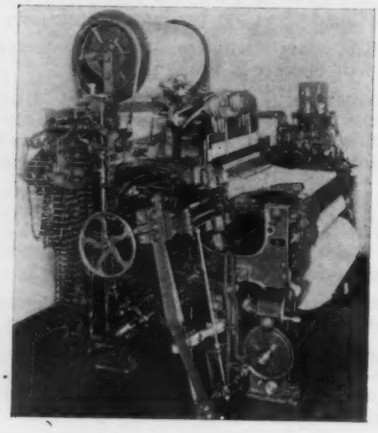
NEW TEXTILE EQUIPMENT AND PUBLICATIONS . . .

Crompton & Knowles Announce New Line of Improved Looms

Crompton & Knowles Loom Works, Worcester, Mass., have recently announced improvements in the Crompton & Knowles line of automatic precision looms which represent the development of an entirely new line of machines embodying precision construction and standardization, simplification and interchangeability of parts, greater speeds, larger filling packages, and larger let-off beams and cloth rolls. These features, it is pointed out, result in easier load on weaver and fixer, greater efficiency, lower weaving costs, and lower upkeep, and higher quality of goods.

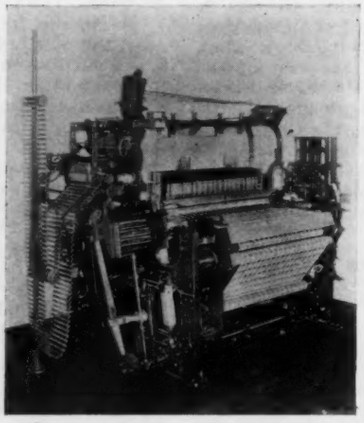
Five new looms in the line are announced: Type C-3 Cotton King terry towel loom; Type C-3 Cotton King dobby loom; Type C-3 Cotton King head motion loom; Type W-2 high speed worsted and woolen loom; and Type W-3 high speed worsted and woolen loom. The Type S-3 shuttle changing super-silk and rayon loom has been in the field for a year and a half.

The Type C-3 Cotton King terry towel loom is designed as a faster running, heavier and more rugged loom, permitting the use of 24-inch diameter beam heads, larger bobbins, and a 22-inch diameter cloth roll. The shuttle size is 17 x 2 3/16 x 1 3/4 high back and 1 11/16-inch high front. The major bearings are equipped with wick feed oil cups. The loom is constructed along precision lines in popular widths, either 2x1 or 4x1 box capacity, regular 3-pick terry motion and 4-harness undercam motion. An electric warp stop motion is incorporated for the terry warp. The loom runs approximately 172 p.p.m. provided the yarns will stand this speed.



Cotton King terry towel loom

On this loom the new terry harness cams give two clean sheds, one for the ground warp and the other for the terry. They are protected from lint by a shield. The terry shaft now behind the back girt is readily accessible. A 4-bank electric warp stop motion takes the ground ends on the back two banks and the terry ends on the front two.

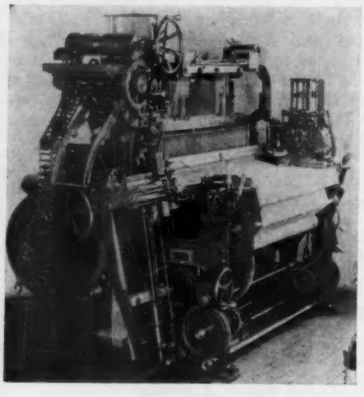


Cotton King dobby loom

The lifting device actuated by the positive let-off raises the terry drop wires when the terry warp is slack, making the mechanism inoperative except when terry ends are tight. An oversized laybeam is cut out to take a deep backstay which is reinforced with a substantial steel angle and which is grooved to accommodate the pitch band reed. The front of the backstay is equipped with removable metal plates that come in contact with the stop screws. On the cone picking motion the picking cam is bolted to a disk keyed and clamped to the bottom shaft. The cam is supported on a turned ledge and is made from cliff patterns formed on a machine especially constructed for the purpose.

The Type C-3 Cotton King dobby loom is a 20-harness, 4x1 box, automatic bobbin changing loom, built on the same frame and including the improvements to be found in the terry towel loom. The dobby is a new universal type not previously applied. The loom embodies improvements in higher speed, larger filling package, larger warp beam and larger diameter roll of cloth, and will handle the general run of shirtings, voiles, clip spot leno curtains, marquisettes, dress goods, handkerchiefs, broadcloths, fancy tickings, huck towels, dish cloths, etc. A lower winding-up roll type of take-up motion is standard construction. The roll is driven through an adjustable friction which can be released, permitting the weaver to unwind the cloth for inspection without removing the roll from the loom. A roll of cloth 22 inches in diameter can be obtained with the 14 1/8-inch circumference take-up roll, which is regular for the usual run of coarse fabrics. On fine fabrics, where the 20-inch circumference take-up roll is required, the maximum diameter roll of cloth obtainable is 20-inch.

The Type C-3 Cotton King head motion loom is designed to handle the particular requirements of weaving narrow pants goods and similar fabrics. This loom, built along precision lines, is equipped with a 16-harness, 4/10 space intermediate head motion including drop box section. It is the first cotton box loom so equipped, and is available in the usual widths and either 2x1 or 4x1 box capacity. It has a new batwing picking motion with a picking roll arm keyed and clamped to the bottom shaft and carries an adjustable roll. The picking shaft of square steel has a steel sweep arm welded to one end, and a scientifically developed shoe held by three set-screws at the other. Double shipper and brake handle are standard construction on this loom. The knock-off from protection, filling and warp stop motions is through the brake handles. Adjustable locks hold the handles in the On position. The double shipper and brake handle are "knocked off" from either end of the loom. (This feature is available for the other C-3 looms if desired).



Cotton King head motion loom

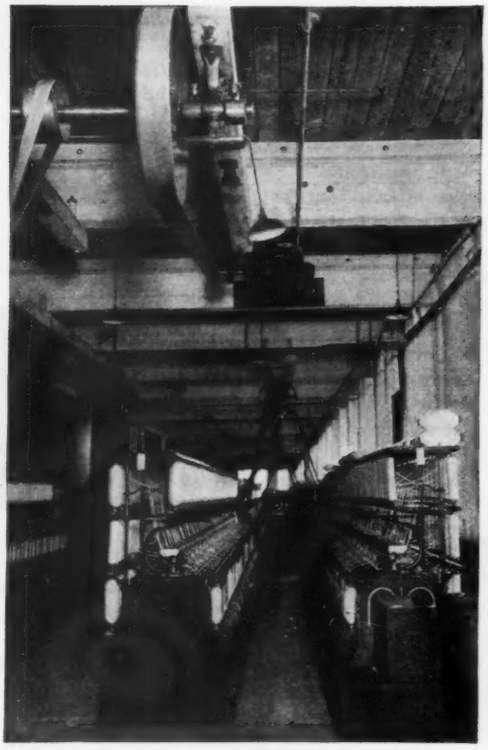
There are a number of features common to all three of the Type C-3 looms. One is a new rising roll take-up (optional) giving a maximum diameter roll of cloth of 22-inch; inward move-

CRACKING DOWN ON COSTS!

Mills find Goodyear Belting pays dividends

• • •

Result of long textile experience



COTTON *up!* Labor *up!* But in hundreds of mills Goodyear Textile Belting is hammering maintenance costs *down and down!*

Goodyear Belts last longer because they are specially designed for the exacting requirements of mill service. As one of the largest cotton users, Goodyear knows what you are up against – the high-speed, belt-killing drives; the humid temperatures; the necessity for uniform speeds and tensions.

Out of this first-hand knowledge has come Goodyear THOR Belt *(Seamless)* with its unequaled record for low-cost service on Spinning Frames, Cards, Slubbers, Spoolers, Looms, Slashers and Breakers.

Goodyear COMPASS *(Cord)* Endless Belt – *the most nearly stretchless belt made* – first-choice transmission equipment on Pickers, Tappers, Twisters and Vertical Openers.

And for clean-up duty, there's the famous, long-lived Goodyear Air Hose.

JOB-FITTED BY THE GTM

Made-to-order construction is only half the story. To insure the right equipment on the right job, all Goodyear textile products are individually specified to your operations by the G.T.M.—Goodyear Technical Man. To secure his expert advice, write Goodyear, Akron, Ohio, or Los Angeles, California, or the nearest Goodyear Mechanical Rubber Goods Distributor.

Goodyear is represented in the South by authorized Goodyear Mechanical Rubber Goods Distributors conveniently located with relation to your mills and able to supply promptly all Goodyear Mechanical Rubber Goods for the textile industry

THE GREATEST NAME IN RUBBER

GOODYEAR

TEXTILE BELTING

MADE BY THE MAKERS OF GOODYEAR TIRES

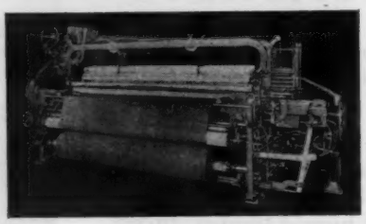
ment of the cloth roll to prevent obstructing weaver's alley; arrangement to show both sides of the fabric; and high position of the handwheel. The rocker shaft bearings are of unique design; with steel sleeves held by setscrews to the rocker shaft supporting the weight of the lay in cast iron bearings. Thus the bearing area is doubled, lubrication is secured by wick feed oil cups and oil grooves. Shock absorbing crank connectors with a new oiling system are used. A wick-feed oil cup at the pin end of each connector feeds oil to both its bearings by means of oil grooves and a flexible tube. The clutch, of the side face friction type, has no end thrust because the sidewise motion of the motor gear is obtained through a toggle linkage. The clutch is adjustable by an adjusting screw. In the motor mounting, a one-piece cast iron frame securely bolted to the loomside supports either the conventional four-footed textile motor or the new three-point type of motor. A patented construction of the head end loomside lends itself to a variety of head motion and dobby drives.

A steel braced cast iron drop box lay end carries a straight picker rod clamped at the inner end and supported by a hardened steel bushing and flat spring at the outer end. The picker rod can be removed easily and is free to expand lengthwise without destroying its alignment or that of the lay end.

The let-off is designed to handle a beam with a 24-inch diameter head and a shaft 1⅛-inch at the bearings. Another pocket in the beam stand takes all beams 20-inch in diameter and less, having a beam shaft of 1⅛-inch diameter at the bearings. An angle iron breastbeam is held in place by bolts through the loomside and through the bunter stands which, in turn, are fastened to the loomsides. The protection is of the double end type equipped with four-leaf flat springs adjustable from the front of the loom. The bunter levers are reversible.

The Type S-3 Super silk and rayon loom is built with either a 12-harness cone, 16-, 20- or 25-harness dobby, or 16-, 20- or 25-harness intermediate head harness motion. The box capacities are 2x1 or 4x1 non-automatic, or 2x1 shuttle changing. The shuttle changer will take shuttles 15 x 1 5/16 x 1 5/16-inch, or 15 x 1⅜ x 1 1/16-inch. The loom is designed to weave the most difficult of silks, rayons and mixtures. Usual speeds are 132 to 142 p.p.m. High duty roller bearings, double pressure roll and precision let-off are alternative equipment. On this loom the handwheel on the ratchet shaft is designed to prevent the weaver from soiling his hands on the ratchet, and is easily removed when changing pick wheels. The intermediate gear and pinion are held by a set-screw to a short piece of shafting which runs in bearings on the loomside and take-up bracket. The bearings are adjustable. Roller bearings for the take-up drum are of the high-duty type. The crank, bottom and rocker shaft bearings are in cartridge form. The backstay is supported on swing reed hangers which are pivoted on the lay ends. The picker rod and holder construction involves a stand at the inner end of the picker rod consisting of two parts between which the rod is firmly clamped. At the outer end the rod is hardened and passes through a hardened bushing. A flat leaf spring bears against the rod, holding the rod but permitting any expansion in it to take place without distorting the alignment of the rod or lay end.

The Type W-2 worsted and woolen loom is a 20-harness loom, newly designed throughout, with finished surfaces, roller bearings and precision construction. The box capacities are



W-3 woolen and worsted loom

2x1 and 4x1 automatic, and 4x4 non-automatic. It takes either the worsted or woolen shuttle and bobbin, and is built with either high or low roll type of take-up; 24-inch diameter beams are standard. It is designed to weave fabrics of the lighter men's wear worsted type, and has successfully handled fabrics ranging from 6 to 36-ounce. The speed ranges up to 152 p.p.m.

The W-3 is a 26-harness worsted and woolen loom, with finished surfaces, precision construction and roller bearings, built to take either worsted or woolen shuttle; with either high or low roll type take-up, high roll permitting 19-inch diameter cloth roll. The box capacity is 4x1 automatic and 4x4 non-automatic; maximum width between swords is 120 inches; 24-inch diameter beams are standard. It is designed to weave any worsted and woolen fabric.

Among the features of the W-2 and W-3 looms are: easier timing of head motion, more convenient adjustment of chain shaft, a new harness lock knife mechanism, a new shipper and brake mechanism, improved protection feature, and adjustable crankshaft gear.

Crompton & Knowles Loom Works had contemplated exhibiting these new looms at the Southern Textile Exposition in October. When the Exposition was postponed until April, the manufacturers arranged for a special exhibition at their plant in Worcester during October and November.

* * *

Rust Preventive

E. F. Houghton & Co., 240 West Somerset St., Philadelphia, Pa., have announced the development of a rust preventive, which may be brushed or sprayed on, to combat rust damage to idle machinery. The product is Rust Veto. After a machine has been idle for any considerable period, it is explained, the inroads made by the natural affinity of iron for oxygen and other elements in the atmosphere become visible to the eye. This new product, it is claimed, will prevent particles of rust from forming, and is itself quickly removable after it has performed its protective service. Its coating is non-porous, will not dry up, nor permit any corrosion beneath the protective coating during the idle period.

* * *

"Broken Lug Strap" Contest

E. H. Jacobs Mfg. Co., Danielson, Conn., recently announced the prize winners in the company's "broken lug strap" contest. The contest was open to mill superintendents, purchasing agents, overseers of weaving, loom fixers and weavers. Prizes were offered for the best answers to the following questions: (1) How many minutes are usually required to replace a broken lug strap? (2) How much protection is lost when a lug strap breaks? (3) What per cent of lug strap breaks cause smashes? (4) What damage is done to other loom supplies when lug straps break?

First prize ($25) was won by Furman A. Bland, Cramerton, N. C.; second prize ($15) by C. K. Cobb, Canton, Ga.; third prize ($15) by Harry Greene, Wauregan, Conn.; and a special prize of $5 was awarded to each of the following: A. L. Lovelace, Charlotte, N. C., Harry H. Ely, Bayonne, N. J., E. P. Collar, Anderson, S. C., and M. W. Henry, Blackstone, Va.

* * *

Nickel Clad Steel

A bulletin entitled "Lukens Nickel Clad Steel in the Textile Industry" has been issued by Lukens Steel Company, Coatesville, Pa., showing considerable application of this material in the machinery and equipment of this industry. This is a bi-metal, made by a hot-rolling process, with a surface of pure-solid nickel permanently bonded to a

"A PENNY SAVED IS TWO PENCE CLEAR"

or, in modern parlance

CUT COSTS TO MAKE PROFITS!

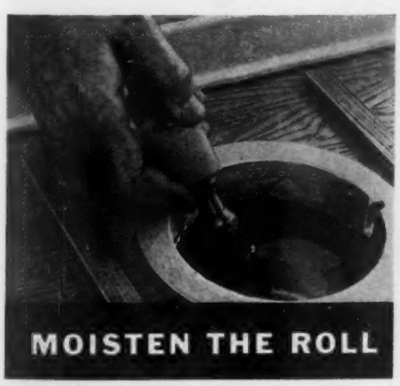
DURING the past several years Armstrong's Seamless Cork Cots have saved from 50% to 75% on roll covering costs for mills spinning all types of yarns. How welcome those savings have been—particularly in recent months when operating costs have increased.

NOW, these cots save more than ever. By applying glue inside them at the factory, Armstrong has greatly simplified the roll coverer's job. He can cover five times as many rolls in an hour, and he gets a tighter, more uniform bond all along the roll.

Besides saving labor-hours the new cot saves the cost of glue—reduces the first cost of covered rolls 10%. There's no sacrifice in quality or wall thickness—and no increase in price.

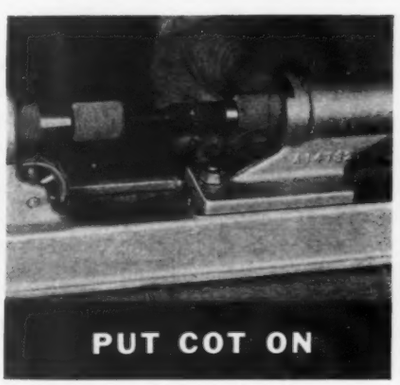
In addition to lowering roll costs, many mills report that Armstrong's Seamless Cork Cots produce better quality yarn. Operating conditions, too, are improved. Whatever way you look at them, these cots are sound.

If you haven't run a test on Armstrong's Seamless Cork Cots in recent years, do so now. Send today for full information. Armstrong Cork & Insulation Co., Textile Division, 923 Arch St., Lancaster, Pa.



Armstrong's Seamless Cork Cots

for spinning and card room rolls



steel base. It is especially suitable for alkaline peroxide bleaching solutions, etc., it is pointed out.

* * *

New Sulphur Colors

Calco Chemical Co., Bound Brook, N. J., have announced the following new sulphur colors: "Calcogene Blue BC6R Conc., reddest of the sulphur navy blues and most useful in the production of deep, rich navies in the single or standing bath. It is completely soluble in less than equal weights of sulphide. Calcogene Brilliant Blue 3GB, a new green shade of brilliant blue. Exceptional in working qualities, brightness and all around fastness. It is also more of a direct dyeing color than most of the sulphur brilliant blues. Calcogene Bordeaux 6R, reddest and brightest of the copper containing sulphur Bordeaux standards, and recommended chiefly as a self-shade. Calcogene Red Brown RCF, a full red shade of sulphur brown which maintains its shade on after-treatment and does not change the original shade by air oxidation. Calcogene Olive Yellow CK Extra, a brand new sulphur dyestuff of the olive drab type which, when after-treated, has vat color fastness to light and washing. Calcogene Blue BC2G Conc., a very bright greenish shade of navy, which does not require any shading color heretofore necessary to obtain bright navies."

* * *

Geared Reductions in Motors

U. S. Electrical Mfg. Co., 1510 S. Western Ave., Chicago, Ill., have announced improved development of geared reductions in electrical motors, known as the Syncrogear motor, with speed variations from 2 to 10,000 r.p.m. This is a self-contained motor with a single base, embodying a geared transmission foundationed on a heavy gear pedestal base, which supports the unusual torque strains in high torque geared reductions. Full rated horsepower of the new motors is delivered to the take-off shaft. The complete assembly practically occupies no more space than an ordinary electric motor, it is pointed out, and the fully enclosed gear compartment excludes foreign matter. The highest speed gears are not completely submerged in oil, thus preventing foaming and resistance. Gear ratios may be subsequently changed at the place of installation.

* * *

New Sanforizing Installation

The equipment illustrated in Fig. 1 herewith is of a complete recent installation of Sanforizing machinery made by The Textile-Finishing Machinery Company, Providence, R. I. This particular range was installed to shrink fabrics such as broadcloths, underwear and shirting materials of all-cotton construction. The range consists of: feeding-in section, moistening section, clip expander, standard Palmer finishing unit and auxiliary or reverse finishing unit with folder, each finishing unit being equipped with full automatic controlled electric ironing arrangements. The main drive is designed for speed range of 20 to 100 yards per minute through directly connected motor and variable speed mechanism. The drive also includes three independent speed change gear boxes: first, for feeding-in section, second for Palmer finishing unit, and third for auxiliary finishing unit, to give predetermined shrinkage at each unit with greater flexibility as to manipulation of speed control and warp tension between these sections.

The company also have their Super Sanforizer (Fig. 2) for higher production on such fabrics as denims, cottonades, duck and work clothing materials, including all heavier lines of cotton fabrics. This over-size machine is also being used for Sanforizing broadcloths, shirtings or other light goods where quantity production is necessary or advantageous. All Sanforizing machinery built by this company is full ball bearing construction throughout. All Sanforizing machinery is built under special license agreement with Cluett, Peabody & Co., Inc., Troy, N. Y.

* * *

Practical Chemistry Book

"Practical Everyday Chemistry" is the title of a book just published by The Chemical Publishing Co. of New York, 175 Fifth Ave., New York City. The object of the book is to tell in non-technical language how the thousand and one items used in everyday life are formulated and manufactured, and to provide the layman and student with the most modern formulae for the articles they meet and use. The price is $2.00 in U. S. A.

* * *

Book on Zinc Chloride Preservative

The Grasselli Chemical Co., Inc., Cleveland, Ohio, have published a book on zinc chloride—the standard salt wood preservative. It is entitled "Looking Ahead Twenty Years in Wood Utility", and describes and illustrates the zinc chloride method of treating timber and other woods for preservation and prevention of deterioration caused by fungi or parasitical plants.

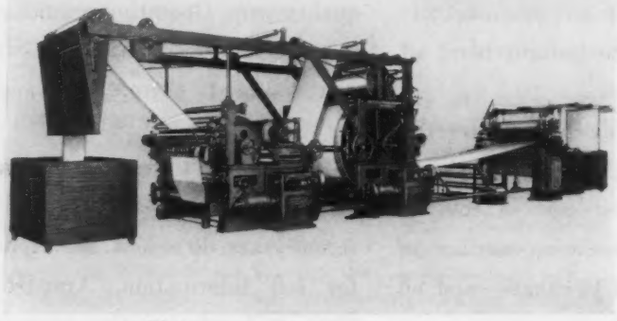


Fig. 1, at left, complete Sanforizing equipment for broadcloths, underwear, shirting material, etc. . .

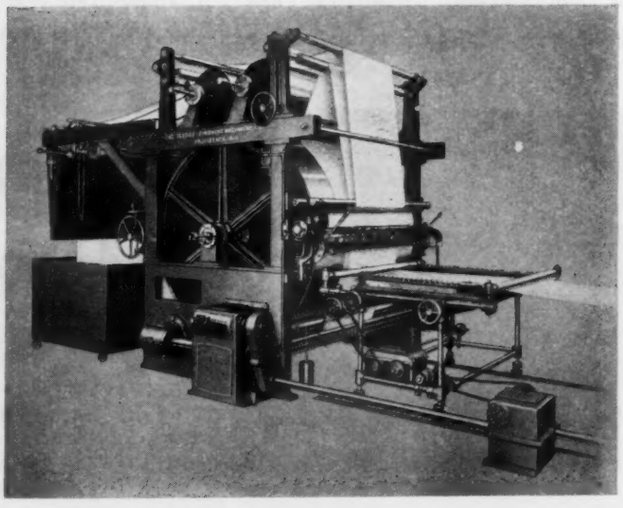
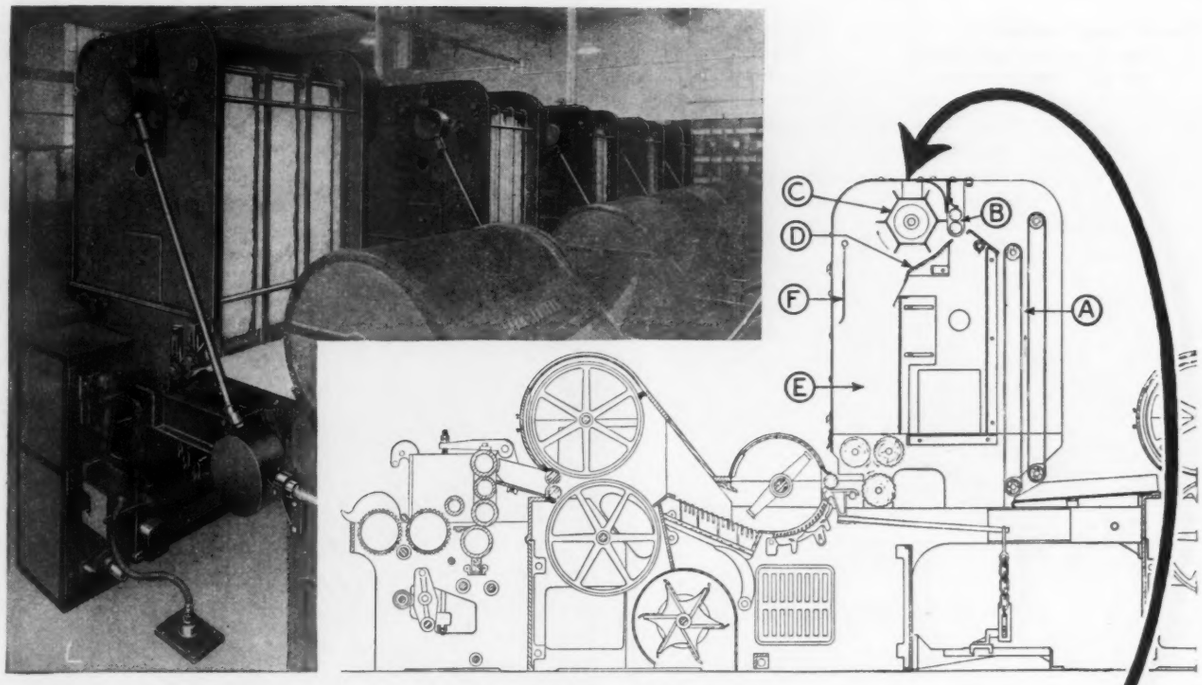


Fig. 2, at right, Supersanforizer for high production on denims and other heavier materials . . . .



Additional Cleaning!

THE Cleaning and Blending Reserve enables pickers to produce cleaner laps than ever before—for the simple reason that it introduces additional cleaning. As the cotton comes from the feed rolls at "B", the six-arm beater "C" picks the sheet and distributes the loose cotton evenly over the set of grid bars "D". ✓ This extra cleaning is extremely effective because there are none of the air currents which are present in all picker beaters. For this reason, the Reserve removes a great deal of light foreign material which could not heretofore be separated, with the result that there is a marked improvement in the Cleanliness of the finished laps. ✓ In actual weight, the light material removed by the Reserve is equal to the heavier particles removed by one beater of the picker line. As a change-over, the Cleaning and Blending Reserve has no equal. ✓ Write for details. Saco-Lowell Shops, 147 Milk Street, Boston, Mass., Charlotte, N. C., Greenville, S. C., Atlanta, Ga. ✓ ✓ ✓ ✓ ✓ ✓

Quote:

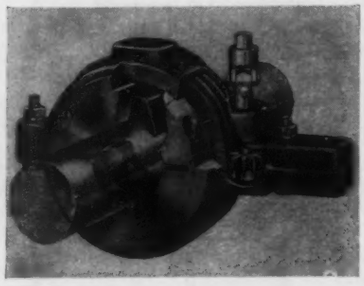
A letter from Chicopee Mfg. Corp. says: "We find that in the Blending Reserves we have additional droppings of approximately 3/10 of one percent. Since the Blending Reserves have been included in the line, we have been able to reduce the yard per yard variation in weights very materially."

SACO-LOWELL CLEANING AND BLENDING RESERVE FOR PICKERS

New Clamp Simplifies Pick Counter Installation

A new compression clamp which allows the drive worm of a pick counter to be installed without drilling the loom shaft has been developed by Veeder-Root Inc., Hartford Connecticut.

A screwdriver is now the only tool required for attaching the Veeder-Root drive unit. One of the compression



New pick counter clamp

clamps is inserted in the cored recess of each half of the worm. The halves are then simply placed around the shaft at the proper point, the screws inserted and evenly drawn up. As the pressure is applied, the compression clamps spread, their hardened teeth bite into the shaft and lock the worm firmly in place ready for the housing.

According to mill reports, the drive unit can be attached, with the new compression clamps, to practically all loom shafts without removing the warp from the loom. Elimination of the drilling saves a large proportion of the labor ordinarily required for the installation and at the same time avoids the weakening of the loom shaft at the point of drilling, it is explained.

All Veeder-Root pick counter drive units are now being equipped with the compression clamps. Patents are pending on the new development.

* * *

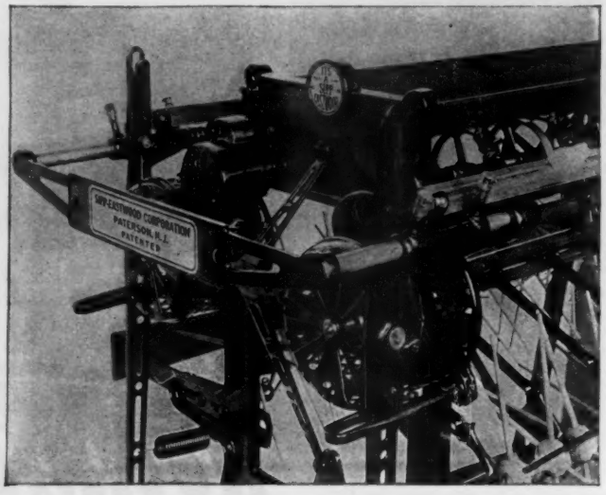
1934 Official American Textile Directory

.The 1934 edition of Official American Textile Directory has been published by *Textile World* Division, McGraw-Hill Publishing Company, Inc., 330 West 42nd St., New York City. This year's edition differs from preceding editions in scope of contents and matter of arrangement. The four major divisions, covering detailed and up-to-date information on all classes of textile mills, include a geographical arrangement of mills, an alphabetical arrangement of mills; a yarn index in which spinners are classified by product, and a list of bleachers, dyers and finishers classified by product. All mills of all types are grouped together in the geographical index, with character designations. There are the usual convenient textile maps, for affording quick reference to the location of cities and towns where there are textile mills, these having been revised. The price of the directory is $4.00 per copy.

* * *

Piston Traverse to Insure Better Wound Spools

Sipp-Eastwood Corp., Paterson, N. J., have announced the development of a piston traverse motion for their single and double deck winders to eliminate jar and vibration caused by the spring-



Right, Sipp-Eastwood winder with new piston traverse motion for eliminating jar and vibration

ing and vibrating of the traverse rods and connecting parts, and resulting in unevenly built spools. In the new traverse, metal carriages on each side of the machine slide on a rigid bar. These bars are securely fastened, the inner end to the main frame. The outer end is braced cross-wise and vertically, and also holds the traverse gear and cam studs. Each carriage thus firmly supports and carries two traverse rods which are bolted to it. The result is a more definite and faster traverse, it is explained, and the ends of spools build up with accuracy. The smoothness of action, it is stated, permits higher machine speeds, and cross-winding of spools, which makes the finding of broken ends simple, can also be done.

* * *

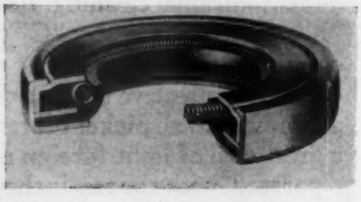
New Indigosol Violet

Carbic Color & Chemical Co., Inc., 451-453 Washington St., New York City, have distributed pamphlets illustrating a new fast Indigisol Violet which the company is introducing, called Indigisol Printing Violet IRR to the printing trade and Indigisol Violet ARR to dyers. For printing, it is stated, it gives a good reddish violet shade on cotton, rayon and mixed fabrics with a slightly bluer tint than Indigisol Printing Purple IR, and possessing good fastness to light, washing and chlorine. It may be used for direct prints and padded resist styles. For dyeing, it is especially offered for pale shades on piece goods, especially fine mercerized materials; and on cotton and rayon yields reddish violet shades of good fastness properties and excellent levelling and penetrating powe: it is announced.

* * *

New Oil and Grease Seal

National Motor Bearing Co., Oakland, Cal., have announced a new oil and grease seal, known as Type BB, for application to all types of machinery embodying shafts, which, it is stated, completely excludes extraneous matter and provides positive imprisonment of oil, grease and fluids. The seal consists of an outer steel case which locks the seal assembly permanently. The outer case has a press-fit accuracy of .002-inch tolerance, plus or minus on the diameter. An equalizing annular garter spring within the case provides a uniform continuous contact, pressing against the sealing member at all



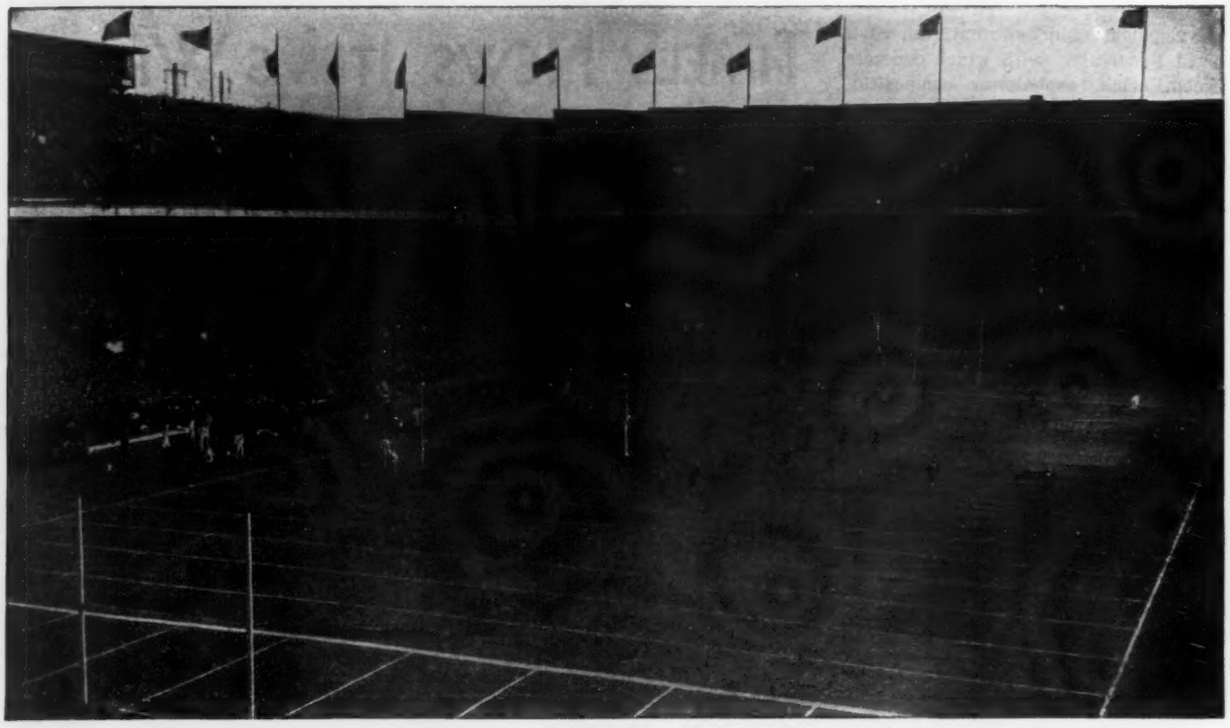
New oil-grease seal

points circumferentially. The actual sealing member contacting the moving shaft is made of various materials, usually a processed leather, to suit different conditions such as temperature, peripheral speeds, unbalanced pressures and chemical activity. This new seal, it is pointed out, eliminates the necessity of stuffing boxes, labyrinths, and other baffling means.

* * *

36-Hour Floor Repairs

Stonhard Company, 401 N. Broad St., Philadelphia, Pa., have announced the



Like a football team at kick-off time . . .

the Houghton Line covers the field . . .

At the shrill signal of the referee's whistle, eleven men spring forward, tense, eager, each trained to do his part. The crowd is on edge, the moment dramatic, the game is on!

As in football, so it is with a "team" such as Houghton has in the textile industry—a group of products each ready to do its job thoroughly, economically and efficiently. . . each trained in the science of treating cotton, wool, silk or rayon from the fiber to the finished garment.

Soaking, sizing, scouring, fulling, dyeing and finishing, softening—for each of these processes there's a Houghton textile product ready to start on its task when your signal is heard. If history repeats, you'll see Houghton succeed where others may have failed.

THE HOUGHTON LINE includes:
Cottonlubric
Silklubric
Raylubric
Lanolubric
Warp Conditioners
Golden Wonder Powder
Sulfols
Houghton's Aids
Sulphonated Oils
Sta-Put Lubricants
Vim Tred Leather Belting
Vim Textile Leathers

E. F. HOUGHTON & CO.

Chicago - PHILADELPHIA - Detroit

And All Over the World

11-34

Write to 240 W. Somerset St., Phila., for data on any of these products.

development of a new material, Stonhard Resurfacer, with which concrete, wood, brick, asphalt or composition floors that have become rutted, rough or broken may be repaired or completely resurfaced and made ready for truck traffic in 36 hours.

* * *

Tests on Effects of Sisal and Jute Baggings

The Division of Cotton Marketing, of Bureau of Agricultural Economics, U. S. Department of Agriculture, Washington, D. C., have issued a preliminary report entitled "Effect of Certain Bale Covers on the Spinning Behavior of Cotton", bein ga report on tests conducted at the Riverside and Dan River Cotton Mills, by the Division in conjunction with N. C. State Textile College, to show the effects as to yarn strength and uniformity, waste, and breakage, etc., in yarn made from cotton covered in the bale with regular jute bagging compared with yarn made from cotton covered in the bale with sisal bagging.

* * *

Wrap Stripe Attachment for High and Low Cylinder Machines

Hemphill Company, Pawtucket, R. I., have announced a new attachment for their Banner plain machines and Banner 12-step machines, designed to convert these machines for the knitting of genuine wrap stripe hosiery. The company states that the attachment was brought out to supplement their regular 19 independent step wrap stripe machine which knits color within color, color beside color, and has other features especially designed for knitting the high-priced wrap stripe numbers. The attachment is not equipped with these special features and is designed especially for knitting hosiery to be sold in the lower price brackets.

In announcing the attachment, Hemphill Company stated that it is built with 6 steps and 12 colors for low cylinder machines of both plain and 12 step types, while the attachment for high cylinder machines has 8 steps and 12 colors. Attachments for both cylinder heights have dual selection on 48 move pattern drums which permits pattern changes between clock head and fork in addition to changes in the vertical design.

* * *

Unit Heaters

Modine Mfg. Co., Racine, Wis., have announced that the 1934 Modine unit heaters will be made in 16 steam and 14 hot water sizes. This heater is of the suspended, propeller fan type, which take up no floor or wall space and are suspended directly from the steam line, the supply connection being the only support required, with no brackets, pipe rods or straps, it is pointed out.

Timely News Items With a Textile Slant . . . .

U S Bobbin & Shuttle Opens Goffstown Plant

U S Bobbin & Shuttle Company, with main office at Manchester, N. H., resumed on October 15 operations in their Goffstown, N. H., plant, which had been closed down for three years. The Goffstown plant specializes in the manufacture of automatic loom bobbins, plain filling and warp bobbins. A new force has been employed to operate this plant. The re-opening of the Goffstown plant makes a total of seven U S Bobbin & Shuttle plants now in operation. Other plants are in Manchester, N. H., Lawrence, Mass., Willoughby, Vt., Monticello, Ga., Greenville, S. C., and Johnson City, Tenn.

* * *

Solvay Sales Corporation Opens Houston Office

The Solvay Sales Corporation, distributors of alkalies and chemical products manufactured by the Solvay Process Company, has opened an office in Houston, Texas, in the Petroleum Building, Texas Avenue and Austin Street. This expansion of sales and service facilities will enable Solvay to better serve its customers throughout the Southwest. It is a development in keeping with the steady progress made by the alkali-consuming industries of this section.

Construction is now well under way on the new Solvay plant located at Baton Rouge, Louisiana. It is expected that it will be in operation early in 1935.

* * *

Details for Textile Exposition in April

It has been definitely decided to hold the eleventh Southern Textile Exposition April 8 to 13, next. The 8th is the second Monday in the month. It will afford an interval of one week between the closing of the show at Greenville and the Knitting Arts Exhibition in Philadelphia, which opens on the 22nd.

Greenville is noted for its climate. It is sheltered from the cold winds by the Blue Ridge Mountains, and the most favorable time of the year usually is early in April. This date has been selected after correspondence with numerous advisors. It meets with the approval of important persons and organizations who will take part in the program.

On April 8, 9, and 10, Edward T. Pickard, secretary of the Textile Foundation, will be present with the heads of the textile schools of the United States. The Chamber of Commerce of Greenville will give them a luncheon on the 9th.

On Wednesday, April 10, the Greenville Section of the American Society of Mechanical Engineers will hold a group meeting.

The Southern Textile Association will have a meeting on Friday, the 12, the details of which have not yet been arranged. President Culver Batson and Secretary D. H. Hill, Jr., will be consulted before any further announcement is made.

The arrangement for special Pullman cars and for reduced rates will stand for the spring show. The management expects to sell before Christmas every square foot of space which is available on three floors.

* * *

Expects Sharp Upturn in Textile Activity

While activity in the textile industry was sharply curtailed during August and September, because of heavy stocks and strike conditions, a sharp upward swing in production and consumption is expected to develop in this industry, according to the *Textile Organon*, published by the Tubize Chatillon Corporation, which states that during the remaining months of the year "the textile curve will move steadily upward culminating in a new peak by about the middle of 1935."

Regarding conditions prevailing in the rayon division of the industry, the *Organon* points out that "rayon yarn stocks have not increased as rapidly as might have been expected," in view of conditions prevailing in the industry during recent months. "'Current estimates of spinning activity for the industry vary from 85 to 90 per cent of operating capacity.

"Prices of rayon cloth strengthened during the first three weeks of September, particularly in the acetate constructions. After the end of the weaving strike, however, cloth prices were again soft. The burdensome stocks of rayon goods in the market during August were materially reduced during September, this result being about the only beneficial result of the strike. The outlook for the rest of this year appears to be most hopeful and we expect a gradual, extra-seasonal increase in rayon deliveries from this point on."

After all—

Nothing takes the place of good leather

FROM raw material to finished product, "Gilleather" tanning and finishing processes are designed with one object in view and that is to make the finest, most uniform, and longest wearing roller leather possible to make.

THE fact that we have succeeded is demonstrated by the large number of mills who, year after year, continue to demand "Gilleather" in the face of the keenest competition of cheaper brands and leather substitutes.

SOUTHERN REPRESENTATIVES:

Gastonia, N. C. W. G. Hamner. *Greenville, S. C. Ralph Gossett.*
Griffin, Ga. Belton C. Plowden. *Greenville, S. C. W. J. Moore.*
Dallas, Texas. Russell A. Singleton.

SHEEP and CALF SKIN

GILLEATHER

***for* TOP ROLLS**

GILL LEATHER CO.
SALEM - - - - MASS.

WITHIN THIS SPREAD - BETWEEN THE POWER AND THE

"OUR POWER COSTS ARE TOO HIGH FOR OUR PRESENT PRODUCTION. WHAT CAN WE DO?"

TODAY as never before industry is questioning power costs. A leading authority estimates that the manufacturing industry can save enough by cutting power costs *to double 1933 dividends of the entire industry.**

What is *your* company's share of that potential saving—a saving estimated at three-quarters of a billion dollars? How long will you allow the question to go unanswered in *your* plant? Power dollars saved are profit dollars earned. Unless the *best way of getting the power to the work* has been determined and adopted throughout your plant—by machines and by departments—you are letting profit dollars slip through your fingers. The best way of getting the power to the work may mean Unit Drive (individual motors). It may mean Modern Group Drive (one large motor for a group of machines). It will mean in most plants a combination of Unit Drive and Group Drive.

Unit Drive with smaller high-cost motors is clearly indicated for many machines and departments in spite of higher investment, maintenance and power costs. But where conditions permit grouping of machines with each group powered by a larger, more efficient motor, Modern Group Drive not only offers definite advantages but substantial savings in first cost, maintenance cost and power cost. Such

* McGraw-Hill Publishing Co.

WORK—IS A SOURCE OF PROFIT IN MANY PLANTS . . .

conditions obtain and such savings are possible in the great majority of manufacturing plants —*your* plant probably.

The question boils down to the correct use and application of motor power (see graphs at right.) The answer is usually to be found through plant study and analysis of production requirements by power and transmission engineers.

To raise this question and to get the right answer is the clear duty of an executive to his stockholders. For power costs today represent by far the greatest part of *controllable* manufacturing costs. Little can be done about material costs and labor rates *but power costs can be controlled.*

Investigate the cost-saving and other advantages of Modern Group Drive before completing any modernization, correctional or construction plans. Send for and read our Red Book which will give you in simple graphs and layman's language "A practical analysis of some fundamentals of Industrial Power Transmission." Write for it today.

POWER TRANSMISSION COUNCIL

(*Sponsored by Mechanical Power Engineering Associates*)

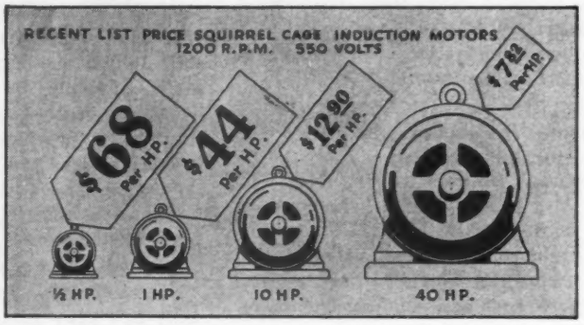
An association of producers and distributors of power, power units and mechanical equipment for the transmission of power.

370 LEXINGTON AVENUE, NEW YORK

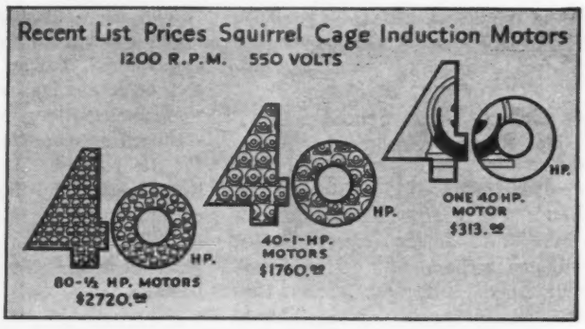
•

Power Transmission Clubs have been organized in key industrial cities to render constructive service to customers. Their number is growing. Members are qualified to render constructive service as a result of study of supplied case information as well as local plant problems.

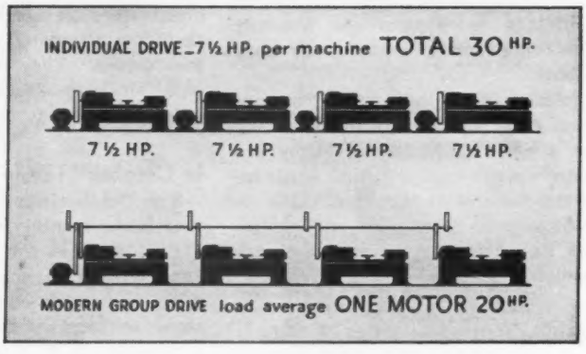
For example, consider the price of horsepower.



Then consider how the use of small motors affects your total horsepower investment.



Now see how much horsepower you actually need for a 20-horsepower job.



Case studies have been made in a number of plants showing detailed costs of group drives, or combinations of group and unit drives, compared with the cost of a unit drive on each machine. These case studies, available on request, report the actual findings of power transmission engineers working with the manufacturers' own plant officials, engineers and accountants.

A POWER DOLLAR SAVED IS A PROFIT DOLLAR EARNED

Commenting upon the wool market the paper points out that wool prices held steady during September, adding that "we still believe that this price level for wool discourages consumption and encourages the use of substitutes. We do not look for higher wool prices in the next six months."

* * *

Atlanta Warehouse for Johnson Bronze

Johnson Bronze Company, New Castle, Pa., have opened a warehouse at 544 Spring Street, N. W., Atlanta, Ga., where a complete stock is carried of the company's Universal bars, general purpose bushings, and electric motor bushings. Ira M. Valentine represents the company in Atlanta, and W. H. Leathers, Newberry, S. C., is also a representative. The new Atlanta warehouse is strategically located for serving the textile mills throughout the South.

* * *

State College Textile School Has Record Enrollment

Registration of upper classmen on September 19 formally opened the fall session of the Textile School of North Carolina State College with the largest enrollment in the history of the school. Three foreign countries, Canada, Bulgaria, and Turkey, and more than 15 states ranging from Massachusetts to Texas and the Middle West, are represented by students. Over 80 per cent of the students registered are North Carolinians, more than one hundred towns being represented by one or more students.

Included among the new students are a number of men who, after attending other colleges, have decided to prepare themselves for service in the textile industry. Several of these men have received degrees from academic institutions while others have attended such schools for one, two or three years.

* * *

"Textile Weekly" Changes Hands

On October 1st, Messrs. Thomas Skinner and Co., London and Manchester, England, disposed of their interest in The Textile Press Ltd., publishers of "The Textile Weekly", 49 Deansgate, Manchester 3. (the official organ of The National Federation of Textile Works Managers' Associations) to William Henry Slater, B.Sc., (Textiles) A. T. I., 49, Deansgate, Manchester 3. Mr. Slater has been editor of "The Textile Weekly" since May, 1932. He is a Lancashire man and has an intimate knowledge of the cotton and textile trades. Messrs. Thomas Skinner & Co. are still carrying on their office in Manchester, from which they will continue to publish "Skinner's Cotton Trade Directory" and "Silk and Rayon" as before.

Annual Cotton Handbook

Comtelburo, Ltd., 11 Tokenhouse Yard, London, E. C. 2, England, have issued the 1934 Annual Cotton Handbook, which contains the complete records of cotton statistics on American, East Indian and Egyptian crops, etc., found annually in this publication, which now reaches its 64th year of publication. It provides forms for filling in daily records of cotton statistics for the comiag season; and is replete with information concerning cotton production, distribution and consumption throughout the world.

* * *

Book on Cost Control

Harlequin Press Co., Ltd., Old Colony House, South King Street, Manchester 2, England, have published "Standard Cost Control for Cotton Spinning," by Capt. John Ryan, M. C., and John S. Taylor. This is an English book dealing with cost computation, anticipation, etc., and outlines a standard system offered by the authors for the purpose. It is based on English practice and methods and will be of interest as indicating the procedure in this work in that country. The price is five shillings per copy, plus postage.

* * *

Dayton Representatives

Mill-Power Supply Company, Charlotte, N. C., have been appointed stock distributors for Dayton Rubber Manufacturing Company on their cog-belts and drives. They will carry a complete stock in Charlotte to serve the industries in that territory.

* * *

In October "Textile Research"

The October number of Textile Research, the monthly magazine in which U. S. Institute for Textile Research, Inc., records in complete or abstract form reports of current scientific research throughout the world, contains a report by J. F. Wilson, associate professor of Animal Husbandry, University of California College of Agriculture, on "Combing Tests With Individual Wool Fleeces" which indicates that measurements of single fibers or groups of fibers are an unreliable basis for the prediction of their spinning value.

R. L. Steinberger, a Textile Foundation fellow, reports a valuable study on "The Stress-Strain Relation in Celanese Single Fibers" that demonstrates that his technique is capable of controlling conditions so that reproducible results may be obtained, and that will provide a descriptive differentiation between different fibers.

Bryce Prindle, another Textile Foundation fellow, describes the development of a standard method of isolating micro-organisms from textile fibers, this being a continuation of his study of "The Microbiology of Textile Fibers." The practical cotton manufacturer is well aware of the destructive effect of mildew on fibers, yarns and fabrics, and may not be surprised to know that Mr. Prindle has discovered on a one-gram sample of ordinary raw cotton the presence of 500,000 to 2,000,000 bacteria and 1,000 to 5,000 molds.

* * *

William Toll Completes 25 Years of Service

On October 15 a testimonial dinner at the Alexander Hamilton Hotel, Paterson, N. J., was tendered William Toll, Jr., vice-president and treasurer of the Sipp-Eastwood Corporation in recognition of his 25 years of continuous service with that company. In token of his personal regard for Mr. Toll and in appreciation of the splendid services rendered the Sipp-Eastwood Corp., the president, Grant Sipp, presented Mr. Toll with an attractive gift.

* * *

PUBLISHER'S STATEMENT

of the ownership, management, circulation, etc., required by the act of Congress of March 3, 1933, of COTTON, published monthly at Dalton, Ga., for October 1st, 1934.

State of Georgia, County of Fulton.

Before me, a Notary Public, in and for the State and County aforesaid, personally appeared W. J. Rooke who, having been duly sworn according to law, deposes and says that he is the Business Manager of COTTON, and that the following is to the best of his knowledge and belief, a true statement for the date shown in the above caption, required by the Act of August 24, 1912, embodied in Section 411 Postal Laws and Regulations, printed on the reverse side of this form, to-wit:

1. That the names and addresses of the publisher, editor, managing editor, and business manager are: Publisher, W. R. C. Smith Publishing Co., Atlanta, Ga.; Editor, R. W. Philip, Atlanta, Ga.; Business Manager, W. J. Rooke, Atlanta, Ga.

2. That the owners are: W. R. C. Smith Publishing Co., Atlanta, Ga.; W. R. C. Smith, Atlanta, Ga.; W. S. Cushion, Cleveland, Ohio; O. A. Sharpless, Atlanta, Ga.; J. C. Martin, Atlanta, Ga.; H. H. Kelley, Willoughby, Ohio; W. J. Rooke, Atlanta, Ga.; T. W. McAllister, Atlanta, Ga.; P. D. Hammett, Chicago, Ill.; E. W. O'Brien, Atlanta, Ga.; E. L. Philpot, Atlanta, Ga.

3. That the known bondholders, mortgagees and other security holders, owning or holding 1 per cent or more of total amount of bonds, mortgages, or any other security holders are: None.

4. That the two paragraphs next above giving the names of the owners, stockholders and security holders if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholders or security holders appear upon the books of the company as trustees or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stock holders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bonafide owner and this affiant has no reason to believe that any other person, association or corporation has any interest direct or indirect in the said stock, bonds or other securities than as so stated by him.

W. J. ROOKE, Bus. Mgr.

Sworn to and subscribed before me this 1st day of October, 1934.

E. L. PHILPOT, Notary Public.

My commission expires March 2, 1935.

NO "TIME OUT"

FOR A CRANE PLUG DISC VALVE

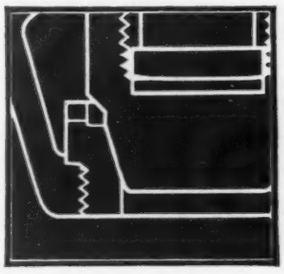
DESIGN GIVES PERFECT THROTTLING . . FULL FLOW

No. 212-P Crane Globe Valve for 250 lb. steam pressure at 500° F.

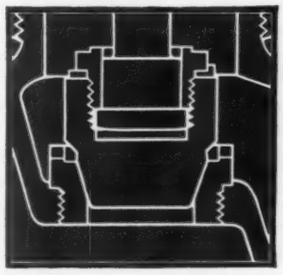
No. 382-P Crane Globe Valve for 300 lb. steam pressure at 550° F.

● Why not install valves that are *designed especially* for heavy duty service? The Crane plug disc globe and angle valves are made of specially selected metals that will stand severe service. The seating surfaces are at the *right angle* and of the proper width to insure long life, free flow and to prevent sticking. You can throttle the Crane plug disc valve to any desired flow . . . and it'll take the punishment month in and month out!

Many are specifying these superior plug disc valves even *for ordinary service!* Try them—you'll save money, prevent shut-downs and costly repairs.



Angle and width of seating surfaces are *exactly right* to insure free operation and long life.



Plug discs and seats are ground *together in pairs* to secure tightness (permits regrinding).

CRANE

CRANE CO., GENERAL OFFICES: 836 SOUTH MICHIGAN AVENUE, CHICAGO, ILL.
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Branches and Sales Offices in One Hundred and Sixty Cities

VALVES, FITTINGS, FABRICATED PIPE, PUMPS, HEATING AND PLUMBING MATERIAL

New Book on Rayon Dyeing and Finishing

"Rayon Dyeing and Finishing," is the title of a new book by B. L. Hathorne, which has just been published by the Howse Publishing Co., 440 Fourth Avenue, New York City. The subject matter of the book appeared in serial form in the *American Dyestuff Reporter* during 1933, and it was written with the idea of bringing within the covers of one volume a brief discussion in non-technical terms of the entire subject of dyeing and finishing of rayon and fabrics containing rayon. Methods of rayon production; rayon from the viewpoint of the practical textile chemist; delustered rayon; physical aspects of regenerated cellulose rayon dyeing; dyeing and finishing of circular knit rayon fabric, of tricot and milanese fabrics, of rayon-containing hosiery, of rayon skeins, and of flat woven goods containing rayon are among the subjects covered by the author, who is a textile consultant. The price of the book is $3.00 per copy, and it may be secured direct from the publishers or through COTTON's book department.

* * *

National Cotton Week to Be Held May 6-11

America's fifth annual National Cotton Week will be observed during the week of May 6 to May 11, 1935, it was recently announced by George A. Sloan, president of the Cotton Textile Institute.

Now recognized by retailers as the official opening of the Summer season, next year's Cotton Week has been scheduled one week earlier than usual in response to suggestions of many merchants throughout the country. It is expected to provide the necessary post-Easter season stimulus without presenting any end-of-month inventory problems.

Reports from widely scattered sections of the country indicate unusual interest in National Cotton Week on the part of retail stores. All records of former years are expected to be surpassed in the number of merchants who will participate in the 1935 observance with special merchandising campaigns featuring, in addition to familiar uses, many new and novel developments of cotton fabrics in clothing and household furnishings.

More than 30,000 representative merchants actively participated in last year's Cotton Week; community celebrations were staged in scores of retail trade centers. In numerous states National Cotton Week was officially recognized by governors to mark the importance of cotton in the every-day life of every citizen.

Comments of leading merchants on the preliminary plans for next year's Cotton Week indicate an almost universal optimism that the 1935 cotton season, prolonged as a result of the earlier opening, will see the popularity of cotton for men's wash suits and slacks, women's apparel of all kinds and for home decorative purposes, greatly enhanced.

* * *

Finishing Subcommittee Empowered to Handle Applications for Productive Machinery

The Plant Extension Sub-Committee for the finishing branch of the cotton textile industry has been empowered by the National Industrial Recovery Board to pass upon applications for installation of additional productive machinery in the finishing branch. Such powers had been conferred upon the plant extension sub-committee for the Code Authority for the entire industry on April 9. The Code Authority, recognizing the existence of problems peculiar to the finishing branch recommended that a committee representing the finishers deal with their applications.

Applications by members of other branches of the industry for registration and installation of new machinery will continue to be handled by the plant extension sub-committee of the general Code Authority.

* * *

"The Cotton Mill Worker and His Needs"

A committee of the American Cotton Manufacturers Association has issued a report "The Cotton Mill Worker and His Needs", which was submitted to President Roosevelt's Committee on Mill Stores, in connection with conferences in Washington considering the prohibiting of the use of coupons, scrip, and other unusual forms of credit in the operation of cotton mill stores. The facts and figures in the report were gathered from personal investigations and reports directly from mill stores and cotton mills.

The purpose of the report is to establish, in the interest of the southern cotton mill worker, the following facts: (1) That the worker needs the mill (or company) store as a matter of economy and convenience; (2) that the worker needs an unusual extension of credit because his income is that of an unskilled worker, because of his improvident nature, and because of the absence of other credit facilities; and (3) that "scrip" and "payment over wages" have proven to be the most satisfactory method because of the convenience, because it serves an emergency, discourages extravagance, and hypothecates future wages, and because of the matter of negotiability.

The report carries a great deal of supplementary material, and is a complete investigation and presentation of the subject of mill stores. The committee signing the report consisted of Wm. P. Jacobs, secretary, Cotton Manufacturers Association of S. C., chairman; Hunter Marshall, Jr., secretary, N. C. Cotton Manufacturers Association; T. M. Forbes, secretary, Cotton Manufacturers Association of Georgia; and W. M. McLaurine, secretary, American Cotton Manufacturers Association; in co-operation with the Piedmont Textile Retail Stores Association, C. A. Holland, president, B. W. Johnson, secretary, and John W. Erwin, executive committeeman.

* * *

Carbondale and Worthington Consolidate Their Interests

Announcement has been made of the consolidation of interests of the Carbondale Machine Company of Carbondale, Pa., with those of the Worthington Pump and Machinery Corporation, in the general refrigeration field, operating in future as the Carbondale Machine Corporation.

The Carbondale Machine Corporation will transfer all necessary personnel and equipment to Harrison, N. J., and in the future will build its lines of machinery at the Worthington plants.

It is stated that the present extensive and modern shop facilities of Worthington, with the additional provisions being made for the fabrication of Carbondale's refrigeration condensers, piping systems, chilling machines and filter presses, will further extend the organization ability to serve the refrigeration field.

Company engineers report many recently developed improvements of outstanding character in its refrigeration machinery, which will make available to users of air conditioning and all general refrigeration such as ice making, oil-dewaxing, etc., full lines of machinery and complete operating outfits of the most modern design and construction.

* * *

Recent Installations of Finnell Equipment

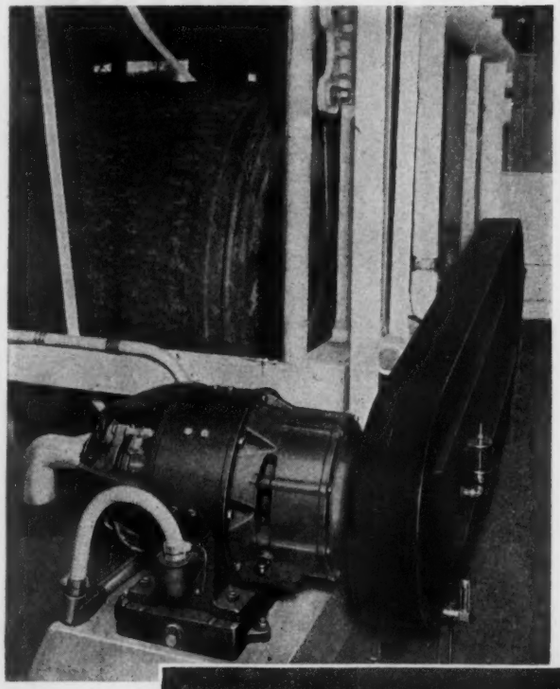
Finnell System, Inc., Elkhart, Ind., have recently installed their Number 90 Finnell combination scrubbing and mopping machine in the following southern textile plants: Goodyear-Clearwater Mills, Cedartown, Ga.; Goodyear-Decatur Mills, Decatur, Ala.; Hillside plant of Callaway Mills, LaGrange, Ga.; Fairfax Mill of West Point Manufacturing Company, Fairfax, Ala.; Borden Mills, Inc., Kingsport, Tenn.; and the Bemis Cotton Mill plant of Bemis Bro. Bag Company, Bemis, Tenn. A. P. Sears is representative of the company with headquarters in Atlanta, Ga.

SAVE SPACE
REDUCE MAINTENANCE
SIMPLIFY INSTALLATION
IMPROVE APPEARANCE

with

GEAR-MOTORS

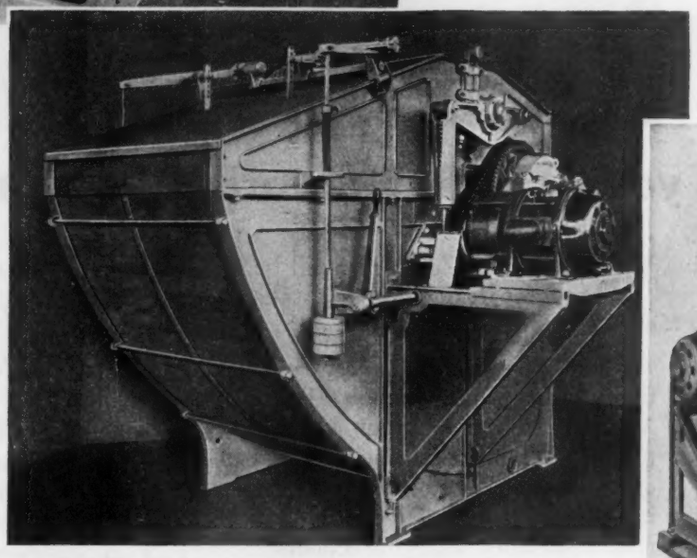
. . . compact, efficient drives for your low-speed machines



Since G-E gear-motors deliver the desired low speed direct to the output shaft, they eliminate the backgearing or countershafts formerly required by many equipments. With them, therefore, you can save space, simplify installation problems, reduce maintenance.

What's more, G-E gear-motors are efficient. They combine the economies of a normal-speed motor with the compactness of a built-in helical planetary gear reducer. They are smooth-running, dependable, long-lived — the kind of drive that will save you money. For complete information, address the nearest G-E office; or General Electric, Dept. 6G — 201, Schenectady, N. Y.

ABOVE: Simple, compact installation of G-E gear-motor chain-connected to range-driven dry cans



BELOW: Neat, space-saving arrangement of G-E gear-motor driving textile finishing machine

RIGHT: Efficient, individual drive for fulling mill, using G-E gear-motor

A complete line of G-E gear-motors is available in polyphase, single-phase, and direct-current types. Standard ratings are listed from 1/6 to 75 hp., from 11 to 600 rpm. Other ratings can be supplied to meet the individual requirements of your driven equipment.

GENERAL ELECTRIC

020-28

COMPARE this Paint with

It's WHITER
Let your own eyes show you!
It SPREADS FARTHER
See for yourself how much farther a little will go!
It HIDES BETTER
Paint it out and see how solidly only one coat covers!

See for yourself that no other combines ALL

WHICH interior white will be best for the ceilings and walls of your plant?

There's one quick, sure way of finding out. Make your own tests! And be sure to test not on any *one* point alone, but on *all* the five vital qualities an interior white must have to combine effectively all-round efficiency with true economy.

* * *

The makers of Barreled Sunlight have always welcomed comparative tests, at any time, under equal plant conditions. Upon the results of these tests, Barreled Sunlight has maintained its 30-year leadership in the interior gloss white field.

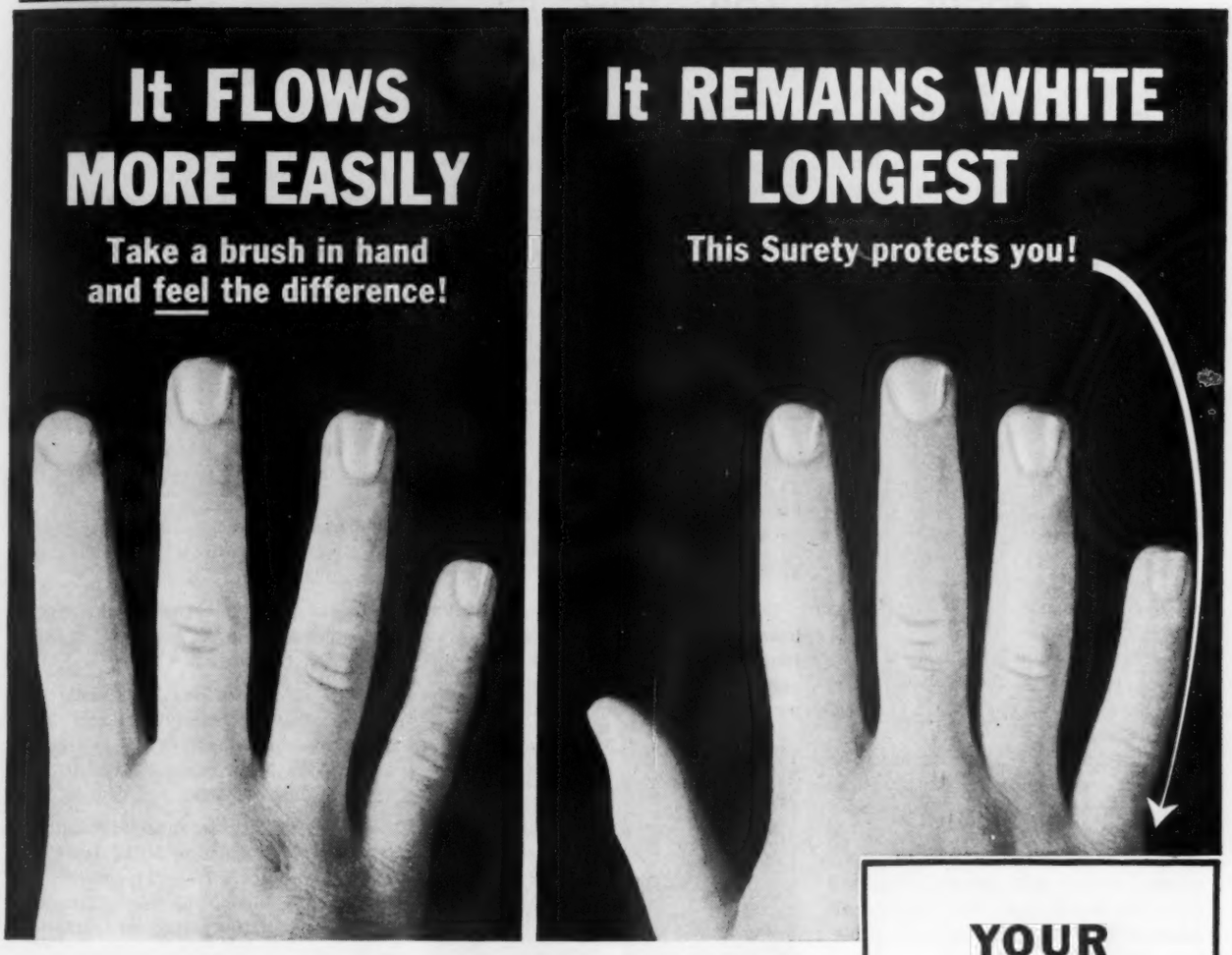
Now, this leadership is still further emphasized!

Each of the five outstanding Barreled Sunlight qualities, featured above, has been vastly improved . . . and *all* at the same time! Paint out a portion of your plant wall and see for yourself!

And, above all, remember that the famous, time-tested, yellow-resistant quality of Barreled Sunlight has also been strengthened. The Surety at the right, your protection against yellowing, is now stronger than ever before!

You may be absolutely *sure*

ANY Interior Gloss White



these FIVE vital paint QUALITIES...

that the smooth, glossy surface of Barreled Sunlight — dirt-resistant and washable as ever—will remain bright and white long after other interior whites have become dingy, yellowed . . . must be painted over.

Send, today, for a free test-sample can of the Improved Barreled Sunlight. Make your own comparisons, or ask us to send an experienced representative. He will be glad to make them for you under your personal supervision.

Write U. S. Gutta Percha Paint Company, 8-K Dudley Street, Providence, R. I. Branches or distributors in all principal cities. (For Pacific Coast, W. P. Fuller & Co.)

YOUR SURETY

We maintain that Interior Barreled Sunlight, the "Rice Process" White, will remain white longer than any oil-gloss paint or enamel, domestic or foreign, applied under the same normal service conditions and according to our specifications. If it does not do so, we will give, free, enough Barreled Sunlight to repaint the job.

The improved

BARRELED SUNLIGHT

REG. U. S. PAT. OFF.

PERSONAL NOTES
about Men You Know

E. D. ESTES, formerly superintendent of the Valway Rug Mill, LaGrange, Ga., and more recently overseer of weaving at Eagle & Phenix Mills, Columbus, Ga., has become superintendent of the Micolas and Opp Cotton Mills, Opp, Ala., where C. C. COBB is manager. M. C. COLLINS has been promoted to succeed Mr. Estes at Eagle & Phenix.

WALTER L. NICHOLSON, of Charlotte, N. C., has become southern representative for the Whitinsville Spinning Ring Company, of Whitinsville, Mass., succeeding WEBB DURHAM, who resigned recently to become associated with the Winnsboro Mills, U. S. Rubber Products Co., Inc., Hogansville, Ga. Mr. Nicholson has been an executive in the Globe Mills Co., Mt. Holly, N. C., and is thoroughly acquainted with mill practice, particularly in yarn manufacture. He attended Duke University and was graduated in 1930, and during summer vacations worked in the mill, entering the mill after leaving college. Mr. Nicholson's addresss is 2119 Conniston Place, Charlotte, N. C.

W. L. Nicholson

E. S. SUMMER, of Atlanta, Ga., has been made superintendent of the Monroe Cotton Mills, Monroe, Ga., succeeding J. R. DONALDSON, resigned. Mr. Summer, a graduate of the textile school at Georgia School of Technology, was a number of years ago superintendent of the Mollohon Mfg. Co. (now Kendall Mills), at Newberry, S. C. Recently he has been associated in a sales capacity with Precision Gear and Machine Company, with headquarters in Atlanta.

EDWARD J. MCMILLAN, president of the Standard Knitting Mills, Knoxville, Tenn., has been made also president of the Cherokee Spinning Company, Knoxville, succeeding the late H. B. MEBANE

JOHNSTON MCCORKLE, formerly superintendent of the Scottdale Mills, Scottdale, Ga., has become superintendent of the Hartwell Mills, Hartwell, Ga., the position formerly held by H. O. ROGERS, resigned.

GEORGE D. SIMPKINS, SR., has resigned his position as general overseer at the Sellers Mfg. Company, Saxapahaw, N. C., to become general overseer for The Collins Mfg. Co., which has taken over the Martel mill plant near Asheville, N. C. Before going to Saxapahaw, Mr. Simpkins was with the Dover Mills Co., Shelby, N. C., as overseer of carding and spinning, having previously been with the Bibb Manufacturing Co., Macon, Ga.

JAMES BENJAMIN ALLEN celebrated on October 18 the 46th anniversary of his continuous connection with the Southern Belting Company, Atlanta, Ga.

D. K. SHANNON and W. T. SMITH have been added to the sales force of the Atlanta Harness & Reed Mfg. Company, Atlanta, Ga., according to announcement by G. P. CARMICHAEL, secretary of the company. Mr. Shannon will cover Georgia and Alabama, and W. T. SMITH will represent the company in the Carolinas and Virginia. Mr. Shannon for a number of years was with the Atlanta Textile Supply Company, and Mr. Smith has been until recently southern representative for the Seydel Chemical Company.

D. K. Shannon

W. T. Smith

C. E. HATCH has been elected president of Brandon Corp., Greenville, S. C., succeeding the late AUG. W. SMITH, SR. Mr. Hatch has been vice-president. J. E. SIRRINE is vice-president and chairman of the board; JOHN I. SMITH is secretary and assistant treasurer; W. B. PERRIN is general manager, and AUG. W. SMITH, JR., is assistant general manager. L. H. CARLISLE is assistant secretary, and EARL R. STALL consulting engineer.

BONNELL W. CLARK has been appointed vice-president and general manager of the Westinghouse Electric Supply Company, East Pittsburgh, Pa., and H N. Gansman and R. J. Holtermann have been made vice-presidents, according to recent announcement by F. A. Merrick, president.

ALBERT R. BREEN has been made sales agent of U S Bobbin & Shuttle Co., of Manchester, N. H., with headquarters at 2650 Coyne St., Chicago, Ill. Mr. Breen is well known to the textile industry of the Middle West in his recent connection as field engineer and later as chief engineer of the Universal Winding Company. Mr. Breen represented the Universal Winding organization in Chicago from 1920 to 1931, but for the last three years has been located in Providence, R. I. In his new connection he will carry in Chicago a complete line of U S products, including bobbins, shuttles, spools and cones of all sizes for all textile needs.

NORMAN B. HILL has returned to his former connection as superintendent of Caswell Mills, Inc., Kinston, N. C.

ROBERT CARR has been made assistant superintendent of the Gaffney Mfg. Company, Gaffney, S. C.

JOHN C. ADAMS has been made superintendent of Hannah Pickett Mill No. 1, Rockingham, N. C. He is a graduate of the N. C. State College textile school, Class of 1933.

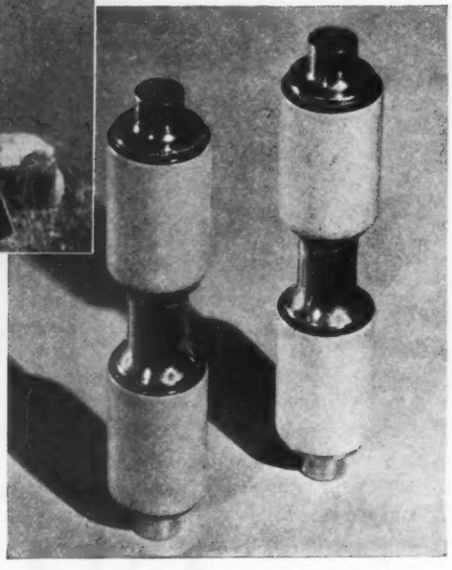
HUGO HEMMERICH, superintendent of the Berkshire Knitting Mills, Reading, Pa., was recently elected president of the Full-Fashioned Hosiery Manufacturers Association, Inc., of Philadelphia.

C. L. STILL is in charge of the Fort Mill (S. C.) plant of the Springs Cotton Mills, following the appointment of E. LEE SKEPPER, formerly manager at Fort Mill, as general manager of the company's plants at Lancaster, S. C.

WILLIAM R. BARNETTE has become superintendent of the California Cotton Mills plant, Selma, Ala. He is a graduate of the textile department of the Georgia School of Technology, and had recently been agent of the Walcott & Campbell Spinning Mill, Gulfport, Miss.

GEORGE R. KAY, formerly overseer of spinning, spooling and warping, Rockdale Mills, Northbridge, Mass., has become superintendent of spinning at the Amoskeag Mfg. Co., Manchester, N. H.

E. J. WALDEN, formerly superintendent, Banning (Ga.) Cotton Mills, has become Alabama sales manager of National Wholesale Co., with headquarters at Anniston, Ala.



World's Largest Denim Producers *enaorse* SPINNA CALF

The quality, uniformity and reliability of Cone Denims are known in all parts of the world. They have been achieved---and maintained---by scrupulous attention to all details of manufacture. The PROXIMITY MILLS unit of Cone Export and Commission Co. helps to maintain its famous reputation by using SPINNA CALF for long draft spinning in connection with making the warps for Cone Denims.

SPINNA CALF — A. C. LAWRENCE LEATHER CO. BOSTON

A. C. LAWRENCE LEATHER CO.

Specialists in Textile Leather

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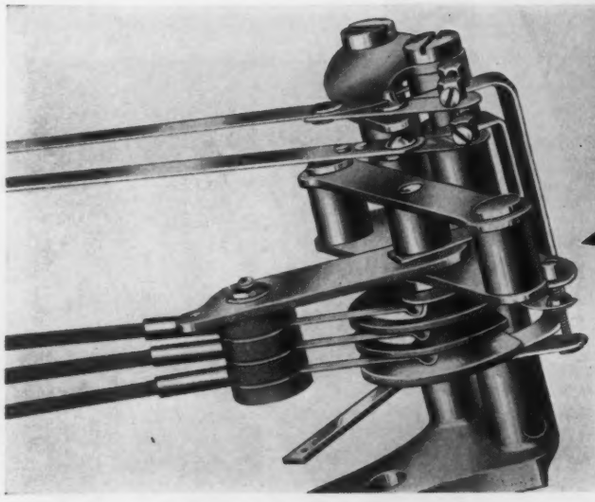

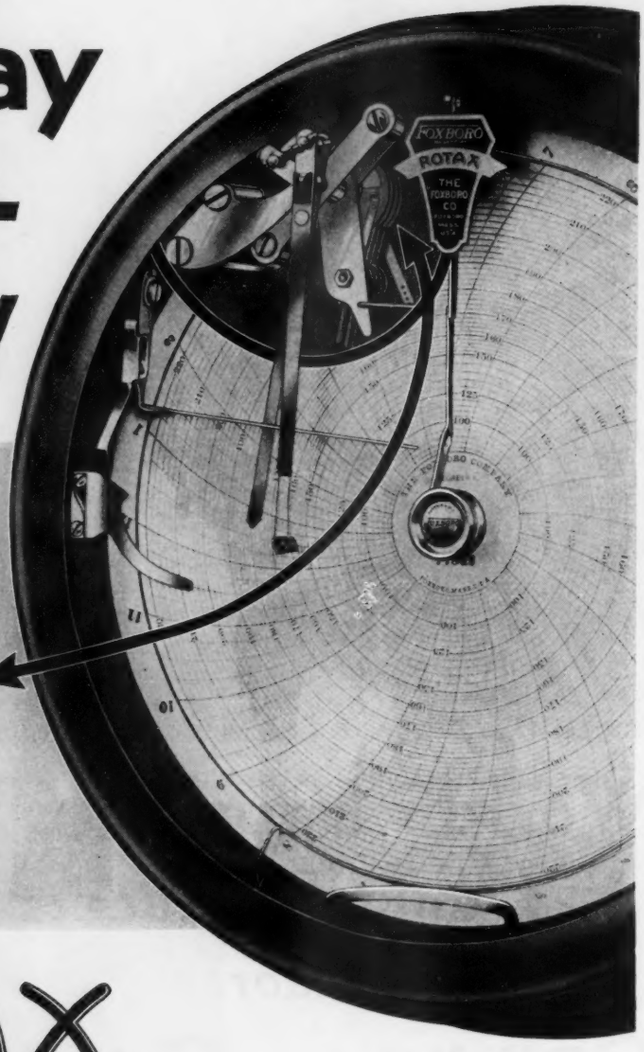

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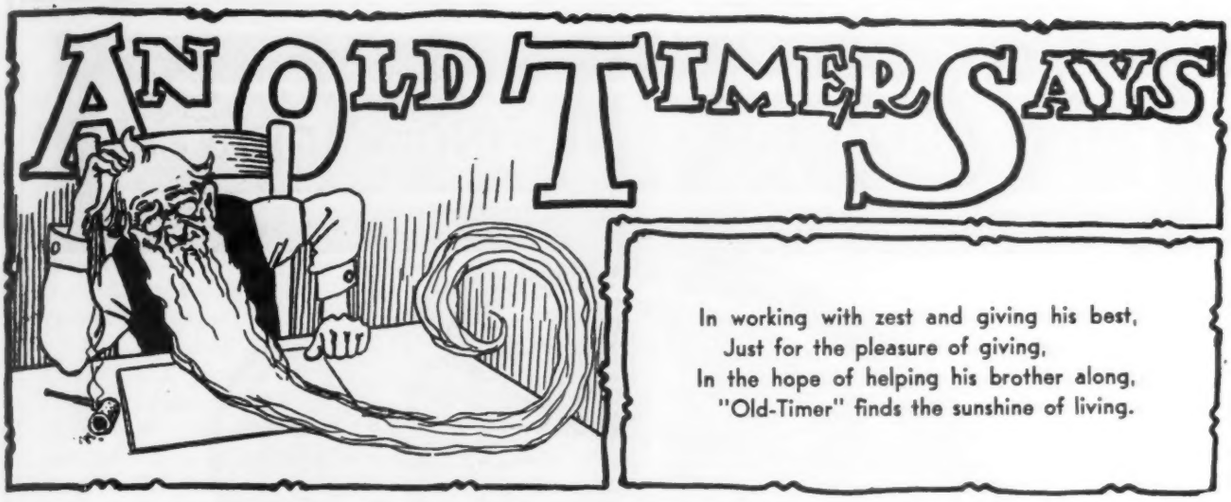
AN OLD TIMER SAYS
In working with zest and giving his best,
Just for the pleasure of giving,
In the hope of helping his brother along,
"Old-Timer" finds the sunshine of living.

Old-Timer and Jim Go Visiting

OLD-TIMER and JIM altered their usual procedure somewhat recently, and met in a certain southern town to visit together the mill of a mutual friend. It was inevitable that they should lapse into their customary conversation which they generally use when going through JIM'S mill. Such comments as either of them made concerning conditions in the mill they were visiting are intended in no way to be a reflection upon the practices of their mutual friend, the superintendent. Any mill man realizes that there are so many local conditions which affect a situation that it is not fair for an outsider to say arbitrarily that such a thing is wrong at one place just because it is wrong at another, or to say that one thing will work at one place just because it works at another. However, things which they saw in this mill naturally suggested thoughts to them, and we present here some of the things that caught their eye and some of the things they talked about.

They started, of course, in the opener room, and this mill had just had a picker room fire.

(Note: Since this article is written in conversational style, it should be borne in mind that those paragraphs in regular type represent OLD-TIMER'S part of the conversation, and those in *italics* are JIM'S part.)

JIM, that reminds me to tell you about the best arrangement I have ever seen for fighting a fire in the opening and picker room. I saw it in another mill recently. The room was equipped with small garden hose, rolled up on a wheel and directly connected to the water supply. The nozzle of the hose was plugged up in such a way that you could not get a solid stream of water from the hose.

At the usual mill, in fighting fires, they turn a large stream of water onto the bales of cotton that are afire, and the force of this stream of water knocks the cotton off of the bale. Whenever you fluff up cotton you take a risk of the fire spreading.

My procedure with a fire in the opening room with open bales of cotton has always been this: the first thing we would do would be to secure some rolls of cotton burlap and throw this burlap over each bale of cotton and tie it down, and take a truck and haul the cotton out of the room, either out into the yard or preferably onto a paved street. The idea is to keep the cotton packed as tight as possible. If it were possible to have one of the devices which a lot of the packing houses use to quickly put a wire around a box and a tool to tie that wire and cut the end off, then in an opener room with 40 or 50 bales there, when a fire broke out, the procedure would be to have a man quickly run two strands of this wire around each bale of cotton that was on fire in order to hold it compactly together. Then the bales of cotton that are on fire should be taken out of the room as soon as you can get them out. You can then put another crew of men to cleaning up the floor, drying out the machines, and getting ready to start up. A separate crew of men in the meantime should be started on these bales of cotton lying out in the street, with instructions that they must not open up the bales of cotton that are on fire, but merely pick the fire off of the cotton. When they see fire or smoke coming from a bale of cotton, pull out that fire with a big handful of the cotton, turn the fire inside, and immerse the whole thing in a bucket of water.

With this procedure you can soon have your fire under control, and then with wet burlap laid over the cotton in case of a high wind you do not have what we call flare-ups—I have many times had 40 or 50 bales of cotton out in the street and seemingly all of the fire was out, and then a brisk wind would come along and cause the flames to flare up and the fire in one bale would spread if there were not enough space between these bales of cotton, and the whole thing would be on fire again.

About Curly Cotton

JIM, did you see as we left the picker room that our friend here has considerable curling of the cotton on the apron between the screens and the beaters? I am unable to say what is causing this, but I do say that the average man looks upon curling as being more detrimental than it actually is, because it is a fact that if cotton did not curl some, you could not spin it. I am referring to an article which appeared in COTTON that said if you should take the cans from the front

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drawing back again to the back drawing and continue doing this, the sliver will finally get so weak that you couldn't pick it up without its falling apart. It is the natural twist in the fiber of cotton which holds it together. This same theory applies to spinning; unless the cotton fiber has that cork-screw effect it will not have any strength in the resultant yarn.

OLD-TIMER, *did you see those boxes of empty fly frame bobbins as we came into the card room, and did you notice that most of those bobbins showed wear at the butt, that is, the places where the notches are that fit on the bolsters?*

Yes, JIM, and I remember distinctly an article in COTTON explaining fully that an inspection of the fly frame bobbins in several mills showed that 90 per cent of the worn out bobbins were caused by the butt wearing out. As a remedy for this was fully explained in that article we will not discuss the matter further here.

The Flat Grinding Machine

Look at the speed of that doffer, OLD-TIMER, *and the web looks good too.*

Yes, JIM, but look at the flats. They seem to be loaded up pretty badly. You have never seen that flat grinding machine which we have recently installed in our mill, but I got the surprise of my life when that machine was installed and we began to take off a few sets of flats which we thought were in good working condition. This flat grinding machine will show exactly the difference in the length of the card teeth from one end of the flat to the other. We were very much surprised to see that some of the flats would vary as much as 5/1000-inch. This flat grinding machine, I believe, is a good investment for any mill. The general idea is that only large mills would be justified in buying this rather expensive machine, but I claim that any mill which has as many as 50 cards would be fully justified in buying one of these machines.

If the flats on the card are not even and where they can be set just like a new card, and if the licker-in clothing is not sharp, then that card cannot produce sliver to give the maximum breaking strength in the resultant yarn. It is impossible for the average mill to get the maximum breaking strength with flats in such a condition, and there is no other way, except new flats, to correct the situation, except by grinding on one of the flat grinding machines.

Notice those traverse grinders, OLD-TIMER? *See how slowly they are running. The superintendent told me that he had decreased the speed on them in order to reduce the wear on the worms, and he says that he gets practically the same efficiency out of the grinder. I think that the man who built those traverse grinders, after years of experimenting, figured out the correct speed, and the point I am going to make is that no traverse grinder should be run in any mill over 12 months without being sent back to the builders to be thoroughly overhauled, having all worn parts replaced. I will admit that this is a rather expensive procedure, however, taking into consideration that the cylinder clothing is worth about $175.00, and then with the cost of the doffer and the labor added on to that, we think that the cost of keeping the grinders in first-class shape is a minor item in comparison with not only obtaining good work but from a purely supply standpoint. Our system is to stamp on the gudgeon of the traverse grinder the date when it was received from the builders after being thoroughly overhauled. Then at any time, without having to refer to any records whatsoever, we can merely look at each grinder and see when it is time for it to go back to the builders again.*

Don't "Save" on Emery

Yes, JIM, and it took me a long time to convince you that you would save money by having the traverse grinders overhauled at least every 12 months.

And did you notice the emery on those traverse grinders, how slick it looks? You remember that a long time ago I cautioned you to never try to wash out emery fillet, or to make it run as long as you thought it should run. Do you know how much it costs to re-cover a traverse grinder with fillet? Suppose you figure it out sometime. Strange to say, the list price of emery fillet has been practically the same for the last 20 years. Throw the emery fillet away, JIM, before you think it gets dull. That will prove to be a great economy.

Here is the overhauling crew, OLD-TIMER. *Let me ask the superintendent to tell us something about that.*

JIM, I think that would be taking up unnecessary time inasmuch as an article by Fred M. Mitchell in the February issue of COTTON went into detail on the subject of overhauling to such an extent that I think all any man should do is to read Mr. Mitchell's article carefully.

Goodness, OLD-TIMER, *did you notice the difference in this spinning room and the one we just came through?*

Certainly, JIM, you see, he has a different spindle in that room and the bobbins are not jumping up on the spindles like they were in the other room. I noted carefully three sides on that spinning and I counted the number of bobbins jumping up on those three sides, and out of three sides of 112 spindles, or 336 spindles, there were 260 bobbins that were not down on the spindles as they should be. There is no need to go into detail to tell you what this kind of a condition will do. At any rate, you see the great difference in the running condition in these two spinning rooms, on the same numbers of yarn and at the same spindle speed; still one room is running practically perfect while the other room is in a terrible mess, all because of bobbins rising on the spindles.

Yes, and here is another great big thing.

What do you mean: great big thing?

See those spittoons sitting around on the floor, and see how many times people miss them? Well, it is a psychological fact that if you will take one of those spittoons and set it up on a stool, then when a fellow goes to pass it, he will be more sure of his aim than he would if it were sitting on the floor.

Yes, I agree with you thoroughly. There should

(Continued on page 95.)

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on pages 62 and 63

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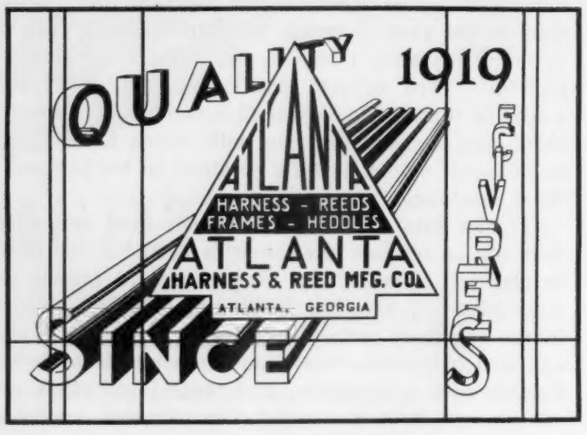

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◆ ◆

Bobbin of Roving Analyzed

By Fay H. Martin

HERE Mr. Martin, who has contributed several articles on the roving frame and its parts to our columns, "takes a bobbin of roving apart to see what makes it tick", and gives some interesting observations with reference to roving cone outline, etc. This article may be considered an answer to the 16th question from "Wash" published on page 89 of August COTTON: "Why is the strand of roving of a less diameter—or occupies less space —at the beginning of a set of roving than at the finish of a set?" . . . . . .

THIS article relates to cotton roving as made on an ordinary roving frame with the proper twist, lay and tension.

It is interesting to note just what is taking place while a bobbin is being wound.

As is well known, the winding of a bobbin on a roving frame is controlled by a pair of cones The top or driving cone of the pair is concave and the bottom one is convex, connected with a belt. This cone belt is really one of the most important if not the most important belt in a cotton mill for so much depends upon it for the making of good roving; but of more importance than the cone belt is a pair of modified cones as will be explained later.

If you were winding wire instead of cotton roving, you would have a material that does not have any stretch or compression and for such you would require a pair of perfect hyperbola curve cones for each and every layer wound upon the bobbin would be of equal thickness and the increment of increase from one layer to the other could be figured with accuracy.

When the roving frame cones are built in accordance with the hyperbola curve, the top cone is always concave and the bottom cone is always convex and it is the hyperbola curve that makes them so.

The hyperbola curve is plotted from the increment of increase, which means the percentage of increase from one layer to another that are of equal thickness, that is, the increase from 1-inch diameter to 1⅛-inch diameter is 12½ per cent while the increase from 6-inch diameter to 6⅛-inch diameter is only 2 per cent, and this percentage varies as each layer of roving is added to a bobbin, being the greatest when the bobbin is small and the least when the bobbin is large.

All rules for the figuring of roving frame cones are based on the above principle and if we were winding wire the cones would be perfect.

However, we are not winding wire but are winding cotton roving which can both be stretched and compressed. It will stretch if the tension is too tight and it is compressed by the pressure of the presser finger upon the bobbin that is being wound.

This pressure is a known factor and can be figured very closely from a formula that is given in a German book entitled: "Handbuch der Baumwoll Spinnerei", by Prof. Otto Johannsen, Vol. II, 1902, page 143. This pressure varies as the bobbin fills from about 11 per cent at the empty bobbin to almost nothing at the full one, in other words, the pressure is about 11 per cent greater on the empty bobbin than at the full, hence the strand of roving is compressed to a greater extent and does not occupy the same space as it does on the full bobbin, but the hyperbola curve cones are figured and plotted as though the thickness of the strand was constant and equal at each layer. This pressure of the presser is quite noticeable when roving with normal twist is being wound on a bobbin that is controlled by a pair of cones that have a true hyperbola curve.

Of course twist can be inserted in the roving to the extent that it becomes almost like wire. In such a case there will be no compression and the tension will be almost perfect.

A great many mills adjust the tension on their roving frames by putting more twist in the roving and running a tighter tension. This is a great temptation to overseers in order to have good running frames regardless of quality and production.

The writer has analyzed numerous bobbins at various times, layer by layer, and the results have always been the same. Care should be taken, how-

ever, in selecting a bobbin on which the roving has a normal twist.

How is it done?

Being provided with a steel tape, about 3/8-inch wide, that is graduated to measure diameters to 1/64-inch, then by wrapping the tape around the bobbin of roving, the reading will give you the diameter in 64th inches and if the reading is half way between the graduations, you have one-half of 1/64 or 1/128 or about 7.8 thousands in diameter. It re-

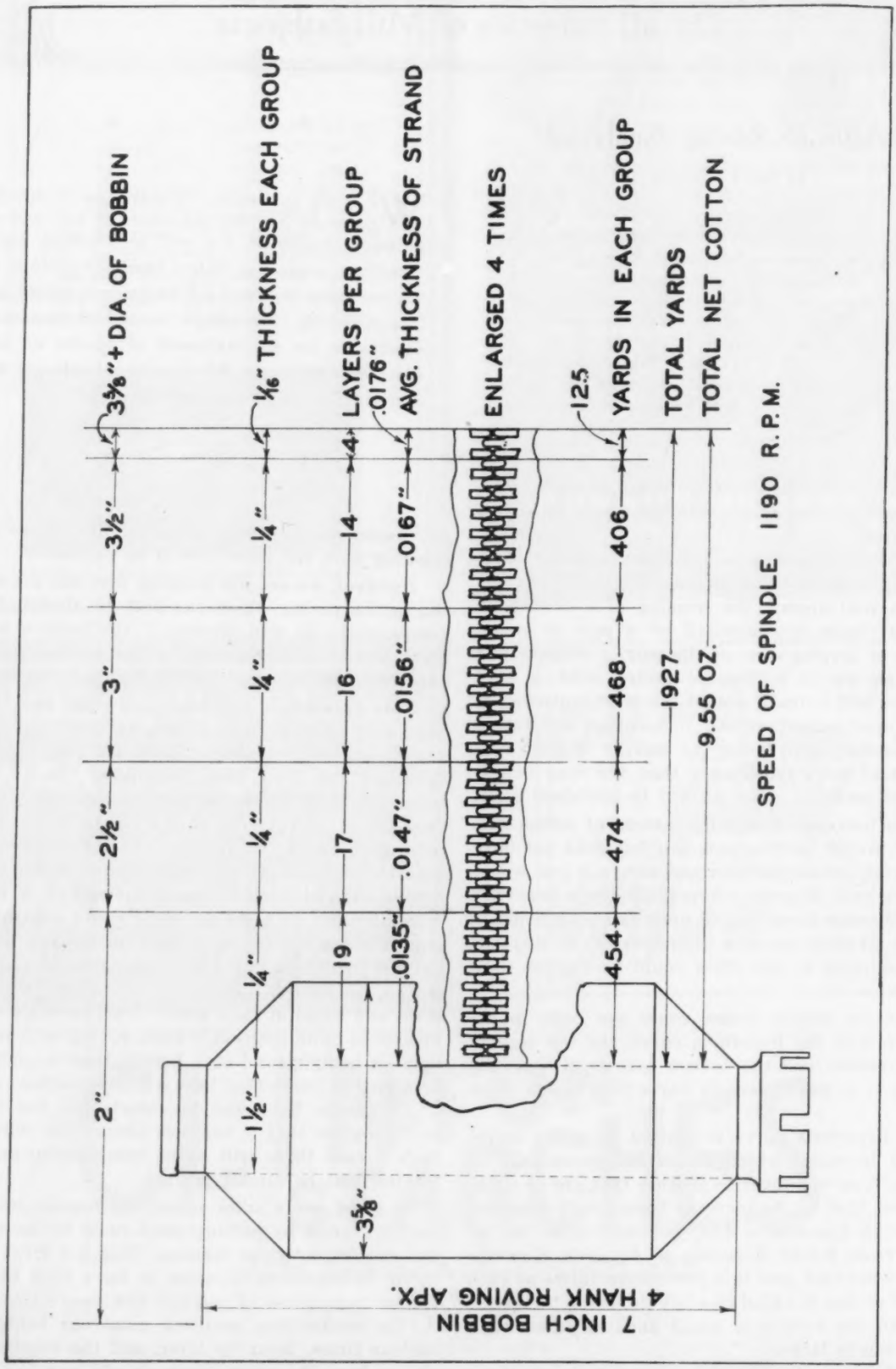

Fig. 1.—Bobbin Made with Hyperbola Curve Cones

quires a delicate touch and a fine sense of feeling. After measuring a bobbin, you reel off a layer and repeat until the whole bobbin has been measured, layer by layer. Then you plot the results as shown in the illustration Fig. 1—"Bobbin Made With Hyperbola Curve Cones".

This shows a diagram of a bobbin of 4.00-hank roving, 7x3½ inches. By a careful study of this diagram you will note that a portion has been enlarged and shows the layers side by side.

The empty bobbin is 1½-inch in diameter. When the roving has become a bobbin 2-inch in diameter, nineteen layers have been placed on the bobbin and occupy a space ¼-inch in thickness. The next ¼-inch has seventeen layers, the next ¼-inch has sixteen layers, and the next has fourteen layers. Then the bobbin is 3½-inch in diameter.

The average thickness in the first ¼-inch is 13½ thousandths while in the last ¼-inch the thickness of the strand is 16.7 thousandths or 23.7 per cent thicker. There are nineteen layers in the first ¼-inch and fourteen layers in the last ¼-inch, a difference of five layers. This variation in the number of layers per each quarter inch is caused by the pressure of the presser upon the strand of roving as it is being wound.

Since the cone belt is moved an equal distance at each change of the traverse, it follows that in order to have an even tension throughout the bobbin the strand of roving should be of the same thickness at all times.

By looking at the cut, it will be seen that the cone belt is "out of step" (coordinate is the proper word instead of "step") with the bobbin, even before the bobbin has ¼-inch on each side and this "out of step" continues throughout the winding of the whole bobbin.

We think we have shown quite clearly why it is impossible to have an even tension on the strand when the bobbin is controlled in its winding by a pair of hyperbola curve cones.

The tension will be slack at one-quarter full and tight at a full bobbin.

In order to carry an even tension throughout the bobbin, the bottom cone must be modified and it should be done at the small end and on the first half of the length of the cone.

This modification (patented) is done by turning the cone smaller in diameter of just the right amount to compensate for the *pressure of the presser*, and when this is properly done, there will be an even tension on the roving from start to finish of the bobbin.

If you get the cone and bobbin in step with each other as they should be, they will be in step all the way through and you will have a perfectly wound bobbin of even roving.

(Editor's Note: Other articles by Fay H. Martin which have appeared in these columns are—"Roving Frame Cones—Why They are Concave and Convex", page 82, May 1932 issue; "The Compound as Applied to Roving Frames", page 80, June 1932 issue; and "Roving Frame Tensions", page 71, August 1933 issue. Copies of these may be secured upon request.)

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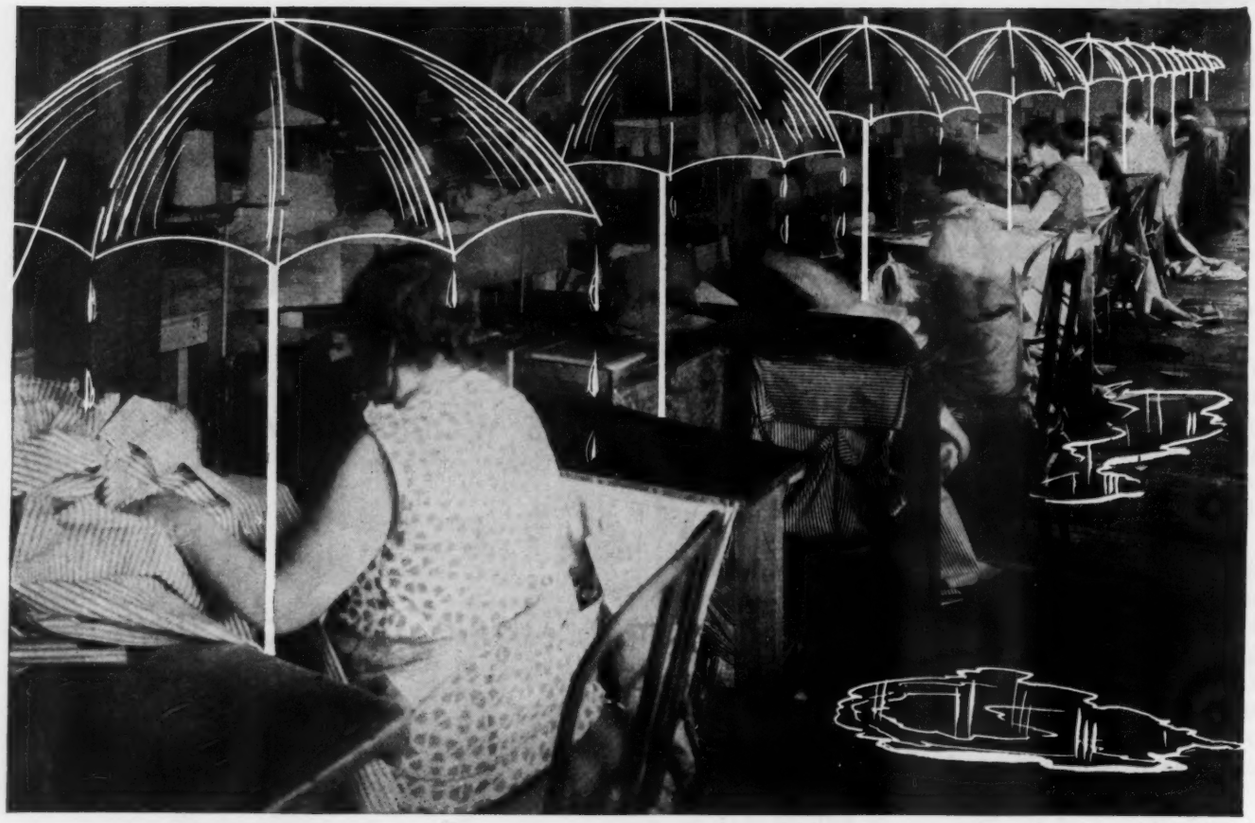
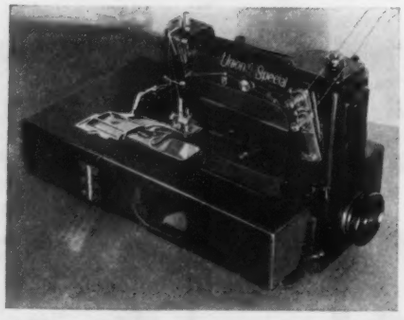


Leaks in the Sewing Room



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Methods of Preparing Size Mixtures

EDITOR COTTON:

I will endeavor to answer the first question of "CONTRIBUTOR No. 6332" on page 79 of the September issue of COTTON with reference to preparing a kettle of size. This man wanted to know whether it is better to start with a full kettle of water, adding all ingredients and then cooking, or to dissolve all the ingredients in a fractional amount of the total water necessary, then diluting with additional water to bring the mix up to the required gallonage after cooking.

I have found that the best method is to mix the starch in about half the total volume desired, and cook this for about three-fourths of the time that one expects to cook the size; Then add other ingredients and bring the water up to the full volume with hot water if practical.

The reason for not adding all ingredients at the beginning is that the softener or other ingredients have a tendency to surround the starch granules and deter their being uniformly broken up.

CONTRIBUTOR No. 6338.

EDITOR COTTON:

"CONTRIBUTOR No. 6332" asks, "Which is better in preparing a kettle of size: to start with a full kettle of water, adding all ingredients and then cooking, or to dissolve all the ingredients in a fractional amount of the total water necessary, then diluting with additional water to bring the mix up to the required gallonage after cooking?"

Better results will be obtained by cooking a full mix and adding as little water as possible in bringing the mix up to the desired level. This answer is given, based on actual experience with both methods. For some reason, the more water that is added to a mix after cooking, the less uniformity and smoothness is obtained.

There are two prevalent methods of adding the ingredients other than starch to the mix. One method is adding them at the start of the mix with the starch; the other is adding them after the starch has been cooked. The writer has tried these methods with several variations and has found no objection to adding the ingredients with the starch, except tallow which, he has found, it is better to add after the mix is cooked. Tallow seems to interfere with the bursting of the starch, causing a non-uniform, lumpy size varying with the amount of stirring, cooking and density of the mix. An ideal method of adding tallow to the mix is to weight it up in a bucket at the start and set it on the lid of the kettle. This puts it where the size cooker can't forget it, and at the same time the heat from the kettle melts the tallow so that it can be poured in the kettle and mixed more readily than in its lumpy state.

The following is the actual procedure in use in the writer's mill: A standard 42-inch size kettle is used. The water is brought to a level of 29 inches and the starch and compound is added. The mixture is stirred for 10 minutes before turning on the steam, then the steam is turned on and the mix brought to a boil in 30 minutes. It is then cooked for 1 hour and 30 minutes at 204 degrees, when the tallow is added and the mix boiled for another 15 minutes. The finished mix measures 38 inches in the kettle. It is necessary on all mixes to add from 1-inch to 3-inch of water to obtain the 38-inch standard level. After adding water the mix is brought back to a boil and then used.

The second question is, "Has it been found practical to test the specific gravity of the solution in the size box for maintaining as near as possible a uniform density of the liquid? What type hydrometer is used?"

The writer has had a very limited experience along this line. At one time, some tests with a standard hydrometer were attempted but the variation in specific gravity was so small that additional tests were thought necessary. This was possibly caused by the fact that the size mix is being used up quickly (30 to 40 minutes) which does not permit thinning down of the mix.

CONTRIBUTOR No. 6335.

Old-Timer Comments on Mixing Size

I am responding to your request to comment on the question of "CONTRIBUTOR No. 6332", and the answers to it from "CONTRIBUTOR No. 6335" and "CONTRIBUTOR No. 6338". (See above).

You cannot start with a full kettle of water, because when you turn on steam to cook, the condensed steam would add so much water it would run the kettle over. In his answer, "CONTRIBUTOR No. 6335" said, "Better results will be obtained by cooking a full kettle and adding as little water as possible in bringing the mix up to the desired level."

What I think he means is that the kettle should be full when the cook is *finished*, which is correct, but you cannot start cooking with the kettle full of cold water, starch, etc. If you do, the condensation from the steam you turn into the kettle will run the kettle over.

At one plant, for example, it takes about 144 gallons of cold water, with starch and size added (if the size is added before cooking) to start the cooking process. The steam is turned on, and of course all of the steam going into the kettle turns to water, thereby adding to the volume of liquid in the kettle. At this particular plant, in cooking 90 minutes the amount of condensed steam (which is water) added to the mix, just fills the kettle and the mix is ready to use *without* the addition of cold water to fill the kettle exactly full and to get the pounds of starch per gallon of mix correct.

At some mills, they allow the size man to more or less guess or measure with a stick the amount of cold water with starch added to start with. The result is that when he has cooked for 60 minutes or whatever he desires, the kettle sometimes is not quite full. This would result in a thicker size (more ounces or pounds of starch per gallon) than desired; therefore, he adds cold water to fill the kettle in order to give his re-

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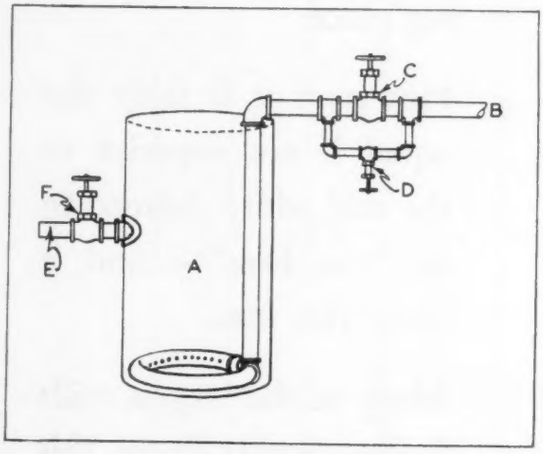
Hartogel K
BASED ON RESEARCH

quired number of gallons of finished size.

In other words, he adds enough cold water to correct his mistake.

Just for this reason, in my article on page 53 of the May 1933 issue, I explained how we drilled a hole (1½- or 2-inch) in the size kettle at the correct height to which the water should be drawn to start with. (See sketch herewith.) This short piece of pipe, *E*, screwed into the kettle at the height on the kettle to which the water should come, has a valve, *F*, on it. With the valve open, start drawing the water into the kettle.



The man can go about his other duties, and when the correct amount of water is drawn, the water will pour out of this pipe, and be the signal for the size man to stop drawing the cold water, to put in his starch (slowly) and turn on the steam. Then, at the end of the cooking period, the kettle will be full with the correct amount of starch and water and it will not be necessary to add cold water.

The position of this piece of pipe on the kettle must be determined by each mill, depending on the distance from the boilers to the kettles, steam pressure and many other local conditions. In other words, each mill must determine how much water it is necessary to have in the kettle at the beginning, to make the finished or cooked size fill up the kettle at the end of the cooking period.

I might also repeat some of the other suggestions given in the May 1933 article: that if starch is added to the water too fast, it will surely lump; that the starch should be poured into the kettle very slowly. Also, that the holes in the steam coils should be watched. They should be very small, but they will get large with use. Small holes will help agitate the starch and give more even distribution. The holes in the perforated steam pipe should be horizontal or parallel to the bottom of the size box, instead of "looking up".

Also in that article I suggested the use of a by-pass *D* (see sketch) on the steam line to the kettle. This is to prevent cooking the size too fast. The ⅜-inch by-pass is used in bringing the batch up to boil slowly, while the valve *C* remains closed. After the batch comes to a boil, valve *D* is closed and valve *C* is opened.

OLD-TIMER.

Storage Bins for a Large Variety of Filling

EDITOR COTTON:

Your September issue carried a question from "CONTRIBUTOR NO. 6334" with reference to handling a variety of fillings for the weave room in a colored goods mill. He stated that he is now using some 424 trucks of the old style for carrying his 55 varieties of filling, and suggested the possibility of using storage bins in the weave room and asked for comments on this idea.

To begin with, I should say that a system of bins properly designed and handled would prove to be entirely practical and satisfactory even in a mill running 55 different styles of filling, provided of course it is not a real high quality fine goods mill. Fine high quality yarn should not be handled in bins on account of the rough treatment which yarn generally receives when handled in bins or chutes. If his filling yarn does not come in this classification, I should say he could use bins all right and save considerable floor space in his weave shed now being occupied by trucks.

My observation in a good many colored goods mills has been that they all use the old truck system of handling their filling. I cannot recall a single one that employs bins to any extent, but I don't think that necessarily means that they cannot be satisfactorily and economically used.

In an effort to assist toward the development of the bin idea, I am sending herewith a rough sketch giving some ideas for a lay-out of 60 storage bins for filling yarns. (See sketch on page 85.) The lay-out might be termed a hypothetical case, since nothing is known of your inquirer's needs except that he usually runs 55 different styles of filling, and would probably need 60 bins. It most likely would not suit his conditions entirely, but it might suggest a few ideas and furnish him and other interested readers something to work on.

The bins would be so arranged in the available space in the weave room as to be most convenient for getting filling to the looms and as to utilize the space to the best advantage.

All bins could be the same size, or they could be of different sizes and of such capacity as to hold a given quantity of filling, as preferred. The former would make a more flexible lay-out and would most likely prove to be the most practical and satisfactory in the long run to the average mill. This phase of the design should be readily solved, however, after a knowledge had been gained of the quantities of filling of different styles and numbers that are used over a period of time.

The bottom of the bins would be sloping and at a convenient height above the floor to allow the filling to slide out of the bins into trucks without being handled. The opening in the bin at bottom should be 12 to 15 inches wide and about 18 inches high and provided with a vertical sliding door.

Due to the great number of different styles of filling that "CONTRIBUTOR NO. 6334" uses, and the importance of preventing, as far as possible, the filling getting mixed, it is imperative that every possible pre-

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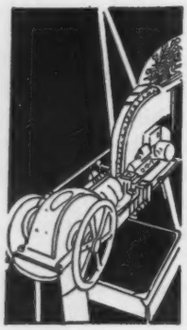

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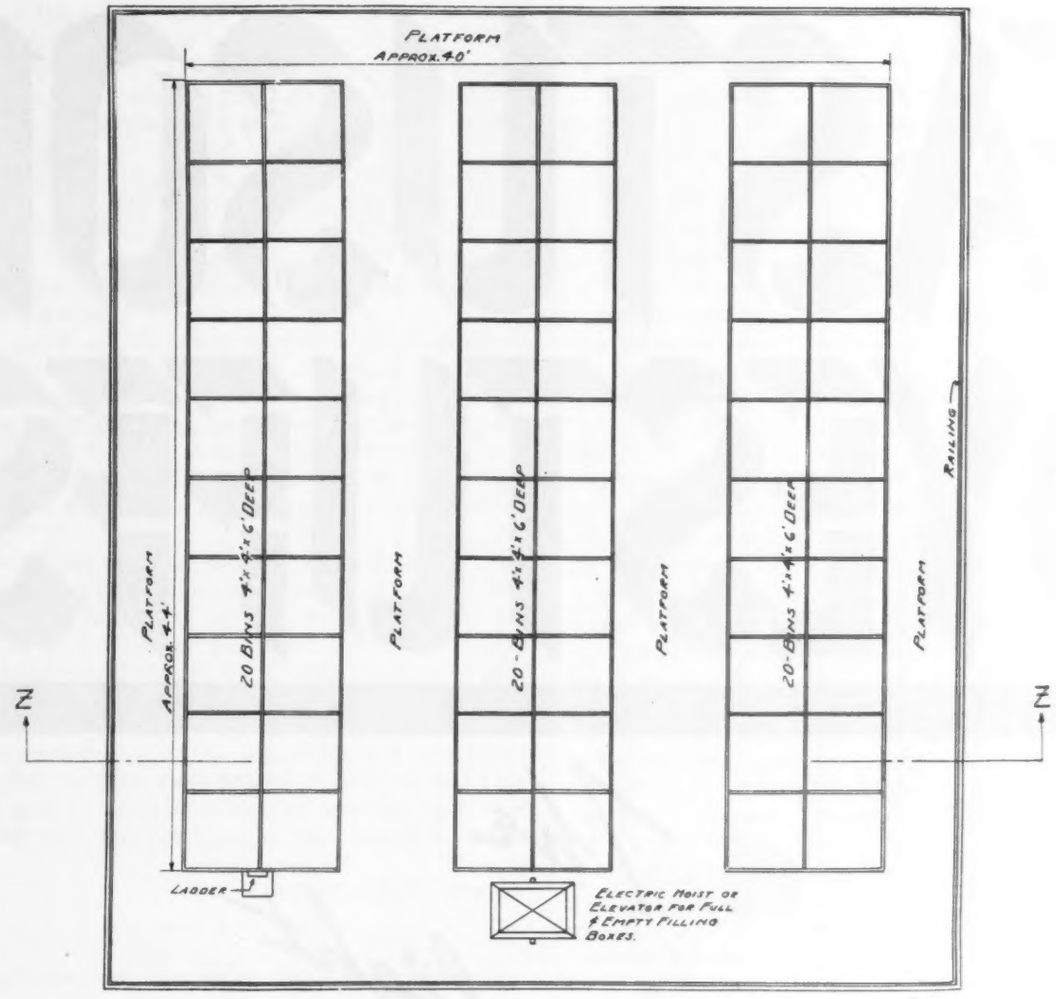
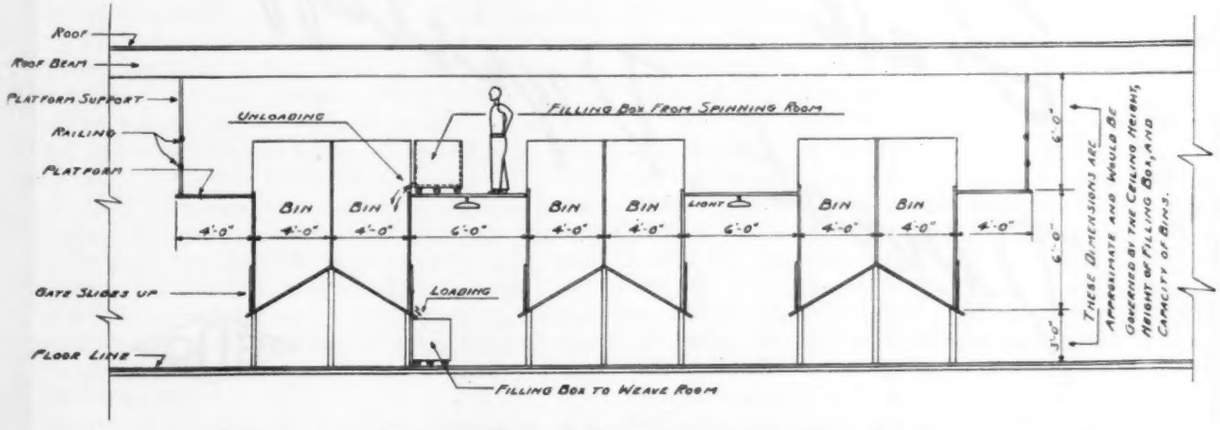


PLAN OF BINS AT PLATFORM LEVEL



CROSS SECTION THRU BINS ZZ

Sketch of bins for storing filling as suggested by "Contributor No. 6341."

caution be employed to eliminate this danger. With this in view, a platform around the upper level of the bins would be provided where the loaded trucks from the spinning room would be carried by the filling hauler to be unloaded into the bins. The operative could readily see inside the bins at any time and would be in position to check the kind and quantity of yarn in the bins.

The platform would be located so as to leave headroom between it and the ceiling for the operative. The

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walls of the bins would extend about three feet above the platform and could be enclosed at the top or left open as preferred. If enclosed, the front or loading side of each bin would be provided with a vertical sliding gate, counterbalanced so as to be easily opened and closed.

A card specifying the kind of filling would be placed in a holder fastened to the front of each bin at both the platform and weave room floor levels. As a further precaution, a sample bobbin of filling could be placed in a special holder attached to the bins right beside the card.

A small electric elevator would be provided to take loaded filling trucks from the weave room floor up to the platform and to bring empties down. It is assumed that the filling trucks must be carried to the weave room floor from the spinning room, in other words, that they could not be brought in on the platform level or that the bins could not be loaded from above.

The trucks used for bringing filling from the spinning room would have one side fitted with a door about 12 inches high making an opening at bottom of the truck 12 inches high by the length of the truck. The door would be hinged to the bottom of truck so that when a truck is rolled up to the front of a bin, it can be unloaded by simply unlatching the door and letting it down to rest on the side of the bin, thus forming a slide or chute from bottom of truck to bin. This would save the operator having to turn the truck over to dump yarn into the bins, or from taking it out by hand.

CONTRIBUTOR NO. 6341.

Opinions on Troubles in Young Man's Card Room

EDITOR COTTON:

On page 73 of the August issue of COTTON, "CONTRIBUTOR NO. 6123" has submitted a few questions which he wishes other readers to answer. His questions resulted from a visit which he had made to the card room of a young overseer friend of his, during which he noted a number of conditions which he discussed and described and which he desired us to comment upon for further information.

He first discussed the matter of tight ends on speeders. His young friend apparently was pleased with the fact that the ends were perfectly taut from the steel roll to the flyer, and "CONTRIBUTOR NO. 6123" wanted to know how the young fellow could have made those ends run slack; what would cause them to run tight; and which department suffered most because of the tight ends.

As we all know or should know, tight ends will weaken the yarn or roving, this being due to its being stretched. To have a proper tension, the ends should sag just a little bit. If the carder of whom our friend speaks had changed his tension gear a couple of teeth, smaller on English type, or larger on American type, his troubles would have been over. Of course, one must use some judgment in changing the gear, as the weather has a great deal to do with reference to the tension. By running ends too tight at the speeders, the yarn breaking strength will be quite a bit lower.

Your contributor then stated that he found on these fly frames that the casing on the carriage and that which covered the spindle gears were wooden casings and that he noticed several bobbin gears jumping; that his young friend explained that with that casing it was impossible to oil the bobbin gears without removing the casing. It should have been possible for his friend to have had a small oil hole drilled in each bobbin gear. If that were done, the gears could be oiled daily without removing the casing.

Next, his friend was running 1 1/16-inch cotton, and said that his rolls on the fly frames were set 1 5/16-inch from top to second, and that the stand between the middle and back rolls was made in one piece with a fixed setting of 1½-inch, and that there was no way to adjust these rolls. I think it would be better to use a little wider setting at the back. This can be accomplished by filing the stand slides.

The overseer of carding and the master mechanic at most mills would be able to make the traverse motion function properly, regardless of how old the motion may be. Your contributor mentioned that his friend had some concave rolls where it looked as if the roving traverse guide was not making its full stroke, and the overseer explained that the frames were of an old type and the stroke of the traverse could not be changed. However, a little common sense would help him here.

"CONTRIBUTOR NO. 6123" next told about bobbins of intermediate roving pulling over the ends and pulling down around the bottom of the bobbins; he also observed that about 20 per cent of his friend's porcelain cups (roving skewer cups) were cracked. His friend told him that he had to put a lot of twist in to keep the roving from breaking back, and that caused the pulling-over condition described. All I can say is that there should be no excuse for skewer cups being broken. The price is so low that any mill can afford to keep plenty of spare ones on hand. Perhaps the trouble with the roving pulling over the ends was that the guide rods were set too high or too low.

Your contributor's friend had some speeders of 112 spindles, 160 spindles and 192 spindles. He was paying the same rate per hank on all frames, and the frame hands tended the same number of frames regardless of the number of spindles per frame. When a mill has various size frames, that is, a different number of spindles on the frame, and they are on only one or two hank rovings, it is best to adjust the price per hank. Surely you would not pay the same price on 112 spindles as on 192 spindles. Where a mill has several hank rovings it is very easy to set a price for the various hank rovings and keep the same hank on each of the speeders of like size.

This young man also said that he could not reduce the spindle speed on his fly frames. I guess he had not had any experience with novelty work, or he would not have said that. If he had changed the jack shaft gear he would have noticed a difference in the speed of his spindles.

CONTRIBUTOR NO. 6340.

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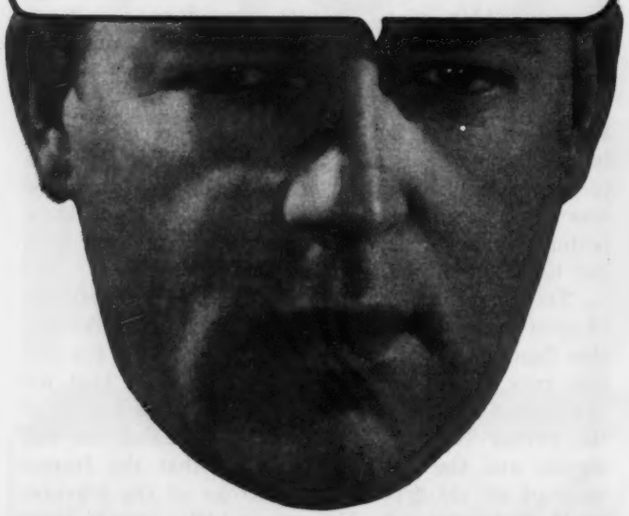

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"S. I. C." Replies to "Wash"

EDITOR COTTON:

I note that on page 97 of the June issue of COTTON "WASH" thought I had the wrong idea of the excess speed of a fly frame. He then made five statements and I think he was absolutely right in all five. But he is discussing the question from a different angle. In other words, it is like I was saying: $36 = 3 \times 6 \times 2$, and he was saying $36 = 18 \times 2$.

To repeat "WASH'S" five statements:

"1. The surface speed on the bobbins must equal the surface speed on the front roll.

"2. When you increase the speed of the front roll you increase the speed of the bobbin.

"3. The flyer and bobbin must revolve together in order to insert the twist.

"4. If we could draw the roving through the flyer without twist we would not want or need the constant speed.

"5. Therefore, when you speed the top cone you speed up both the surface speed of the front roll and the bobbin."

The first thing I will say now is that on page 132 of Cotton Mill Machinery Calculations, Vol. 2, appears the same statement which I made except it says, "The bobbins must 'revolve' as fast as the spindles and enough in excess of this speed to wind on the amount of roving delivered by the front roll"—where I said they must "travel" as fast to do the same thing.

I don't think that either the book referred to or myself had the wrong idea considering the angle from which we were thinking about it.

The first, second and fifth statements of "WASH" are all tied together and are equal to each other. They are united by the common practice of changing the twist or top cone gear and thereby keeping whatever the relative speeds between the front roll and bobbin as regulated purely by the top cone the same. Any change in the speeds of front roll and bobbins as thus tied together does change the twist per inch if nothing is done to the speed of the spindle. But if the speed of the spindles is changed any, the whole problem of excess speed as discussed by "WASH" is upset. I wish he would think of what would happen if the roving did not need any twist and the flyers were stopped. He remembers that the surface speed of the bobbins, whether empty or full, runs into thousands of inches per minute, while the surface speed of the front roll seldom reaches 1,000 in any case. May he consider this in connection with his third and fourth statements?

His discussions of excess speeds are predicted on a fixed or unchanged spindle speed. The problem I submitted on page 73 of the November issue did speed the spindles up 6.6 per cent besides the change in the top cone gear which as pointed out automatically took care of the relation of speeds between front roll and bobbins.

While he is absolutely right in what he has said about excess speeds, he hasn't yet discussed what he thought would happen when spindles were speeded up.

To any who might be following this discussion of excess speeds between "WASH" and myself, let me say that I don't think we are wasting any time on an

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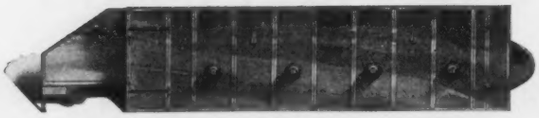

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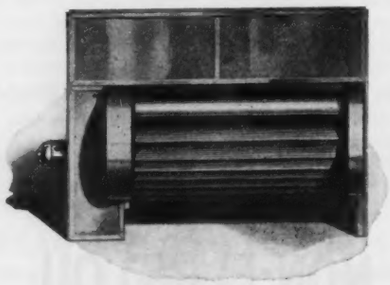

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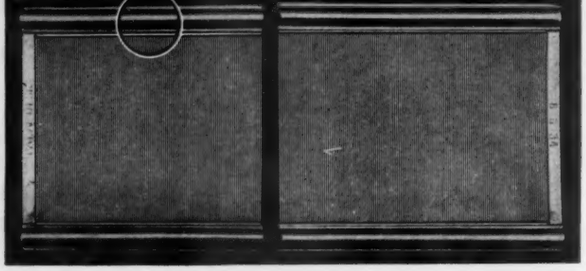

unimportant question. The tension gear regulates the proper speed relation between front roll and bobbins as discussed, and many are the mill men who have worries with or should give some attention to tensions on fly frames. A successful mill manager recently said that he had, in one case, traced excessive loom stoppage directly to the tensions maintained on speeders. If not properly looked after they may cause waste and loss of production throughout the mill.

And what experienced mill man has not had, when he had a change of cotton or close observation had not been followed, trouble with too soft or too hard twist and had to change the speeds of front roll and bobbins to affect the relation of their speeds to that of spindles?

S. I. C. (N. C.)

Points on Loom Fixing---Part 6

By Ivar Moberg

(This is the sixth and last of a practical series of articles on loom fixing, by Mr. Moberg. The first installment, in the June issue, page 37; Part 2, page 71, July; Part 3, page 69, August; Part 4, page 73, September; and Part 5, page 107, October—discussed mispicks, broken picks, double picks, filling kinks, kinky warps, creepers, pull-ins, skips, reediness, shuttle marks, uneven weaving, thick places, thin places, temple marks, button holes in selvage, loopy selvages, etc. THE EDITOR.)

EDITOR COTTON:

The Human Stroboscope

Several times in this series of articles I have referred to "getting our eyes synchronized with the speed of the loom". This is nothing more or less than using our eyes as in a stroboscope. The speed of the loom is relatively low, so that it is quite possible, with a little practice, so to synchronize our eyes with the speed of the loom that moving objects will appear as if they were standing still. Many things which ordinarily could not be seen in action can be easily observed by our "human stroboscope".

In practicing for our human stroboscope, do not attempt to open and close the eyes as the action of the shutter in the mechanical stroboscope; the speed of the loom is high enough to make this a failure. Simply move your field of vision away from the object being observed and return it to the object when this has reached the position as when we first saw it. To be successful, a little practice is necessary, but it is well worth the time spent on practice as many interesting things can be seen in this way.

This reminds me of an incident some years ago in which a loom persisted in making overshots. One of our best fixers had worked on this loom in vain attempts to eliminate the defect. Finally I had my turn at attempting to fix it. I began in the usual way to check up on everything that could have any connection with the defects. After the most careful checking up of the loom I came to the conclusion that the loom was in the most perfect mechanical condition in which I had ever seen a loom. I started the loom up and watched it while in motion. Seemingly it ran perfectly, but by Joe, there were the overshots just the same.

There was nothing more I could do as I did not want to alter the loom meaninglessly. The loom was in a perfect mechanical condition, so far as I could determine, and as such it should stand. Discouraged, I walked away from the loom and began to do some extra heavy thinking. Finally it struck me that if I could see the course of the shuttle through the shed I might be able to see what caused it to make overshots.

Going back to the loom, I started it up and, placing myself at the side of the loom, I stooped down until my eyes were on a level with the race board, and looked through the shed. At first I could not see anything at all until I thought of using my eyes as a stroboscope. Moving my field of vision away from the open shed and bringing it back at the same position of the loom, I could see the shuttle very plainly as it sped across the loom. Every time the shuttle had reached about one third in from the selvage, with the front harness up, it seemed to ricochet upwardly as by some mystic power.

I stopped the loom and looked over the race board at the point where the shuttle seemed to ricochet, but could find no protrusion. Turning the loom over until the front harness came up, I discovered that some of the warp threads in the bottom shed were held up by some obstruction. Looking underneath the loom I found that on the front harness the heddle rod hook in the bottom of the heddle frame had not been divided up properly. As the cloth had a heavy sley and the heddles were heavily crowded, the heddles at this point were so heavily crammed that the warp threads from the heddles behind could not go down between them. Hence they were held up above the rest of the warp threads in the lower shed and when the shuttle struck these threads, it ricochetted upwardly into the upper shed and made the overshots. Had the warp threads been under greater tension and the shuttle lighter, it would have been thrown out of the loom.

After dividing the heddle evenly on each side of the heddle rod hook, the overshots disappeared. Without my human stroboscope this defect might have been very difficult to fix. Since that time I have often used my human stroboscope successfully to observe many moving parts of the looms.

In closing this little series, let me say that I will be very pleased indeed to undertake the discussion of any general or specific topics with reference to weaving which any readers of COTTON might submit.

(This is the sixth and concluding article in the series by Mr. Moberg. The complete series of six installments is available in pamphlet form upon request.)

Old-Timer Says—

So many young men can't seem to get it into their noble heads that promotion almost invariably comes to the man who deserves *it, who has worked for it. They all want it all right, but when it comes to going down after the* work *to get it, that is not so funny. Too many of us confuse ambition with a desire to have things handed to us on a silver platter.*

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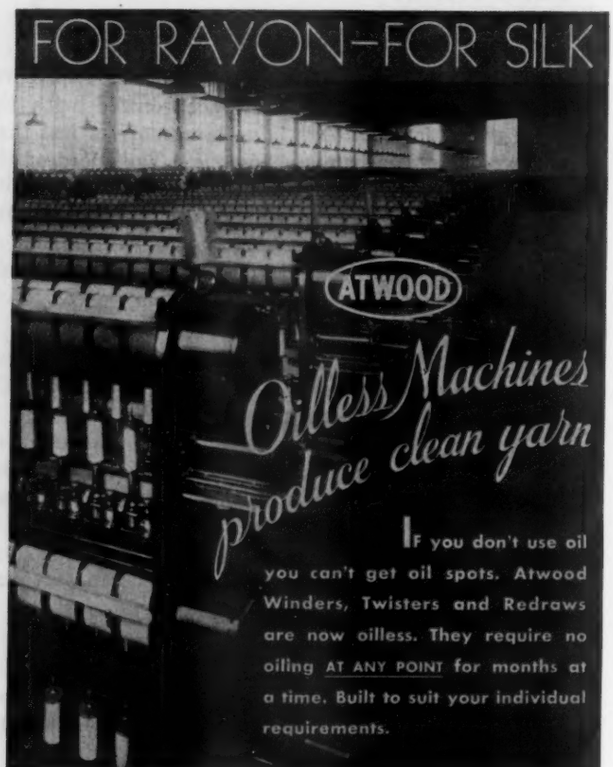

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Another Experience With Worn Ring Spinning Whirls

Where insufficient stock remained for re-grooving, it was found that a smaller band gave better results . . . . . .

EDITOR COTTON:

An article appeared in the September number of COTTON under the title, "Turning Down Worn Spindle Whirls". It was read by this writer with much interest because of his experience some years ago with worn whirls being found responsible for excessive band breakage. In this case so much wear had taken place in the track of band point in the whirl *V*, that insufficient stock for re-shaping the *V* remained, so another scheme for eliminating the trouble was evolved. Naturally if these whirls had been occasionally checked as Mr. Holt suggests in his September article, the correction method he uses would have served to make impossible the trouble experienced in our case. However, it had never occurred to anyone in our case to check the amount of grooving taking place, although it developed at the time of tests that such grooving was known to several to be taking place, but was passed over as being of doubtful importance.

The writer became interested in the matter dealt with in this article, when he noticed that mounting requirements for a certain lot of spinning frames showed in his records of issue, he having the banding machine in his department and keeping records of requisitions for bands withdrawn by spinning room authorities. Observation of bands in actual service did not disclose anything unusual, but when a spindle was taken from one of the offending frames, and mounted as a model operating at very slow speed, it was immediately noticed that the band on the leaving side of the whirl tended to come away unwillingly. This was taken to indicate that the band was being wedged into the worn groove in passing around the whirl, and close observation and test by hand corroborated this theory.

There being insufficient stock left at the bottom of the *V* after grooving wear had progressed to the point we discovered it had, there seemed nothing practical to do but supply new whirls, until the thought occurred that a band of slightly smaller diameter would run in the groove made by a larger one, without wedging action. This theory was tried out on the slow speed model spindle and thus shown to be sound. Half a side of the smaller diameter bands were then tied on a selected frame, the other half being given at the same time brand new bands of the old larger diameter, careful records being kept of replacements necessary to be made during a thirty day test period.

At the end of this period results were heavily in favor of the new size band, but it was decided to prove this result by running another 30-day test on the same frame side but with the new small band tied on where the old larger ones ran during the first test period, new old size ones being tied on the spindles where the smaller bands operated during the first test period. The second test run terminated in another decided win for the smaller diameter band, so it seemed safe to conclude that adoption of the new size band

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was advisable, and this was done, with the result that band breakage on these frames dropped to a point comparable with others where no grooving had taken place.

Incidentally an additional economy resulted from this change of band diameter, in the circumstance of making bands from one less strand of roving. The bands were given slightly more primary and secondary twist in their making, and dead weight tests proved their superiority in breaking strength over the older larger diameter bands. The tighter twist also adds to wearing resistance.

M. M. (S. C.)

An Old-Timer Says—

(Continued from page 75.)

be some kind of a bracket or stand attached to the end of the frame to hold the spittoon. This will have the added advantage of helping the sweepers to keep the floor clean.

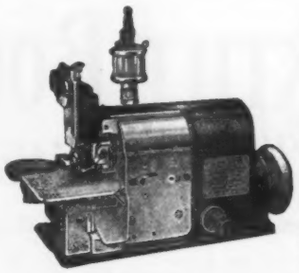
Here is as good a time as any, OLD-TIMER, *for you to tell me about those underclearer or scavenger roll covers you have been bragging about so much.*

Well, JIM, after about four years of making a rather elaborate test we have found that paper covered scavenger rolls are far superior from an operating standpoint to the cloth covered rolls, and in the long run they are cheaper. They look much better on the frame. You see those frames there with the cloth covered rolls, see how ragged they look, all because of badly worn scavenger rolls. You also notice that the ends of the scavenger rolls are tapered off, caused by wear; therefore, if an end of yarn comes down next to the stand, and the waste begins to pile up on the scavenger roll, it will push over to this tapered end, and will choke up, and when the roll stops, then the waste coming through where that end is down will knock down the adjacent end and so on until sufficient ends are knocked down to cause what we call a bung-up. This does not show up badly as long as the work is running well and the spinner gets around the proper number of times in time to catch the *single* ends that are down; however, when the work is running badly, then the bung-ups may get still worse because the spinner does not get there in time to catch the single end down.

Say, OLD-TIMER, *did you notice that this mill has places marked off on the floor to designate where the Boxes should be placed? However, you see the boxes are not in line.*

Yes, JIM, if you remember, I showed you sometime ago how to take two pieces of half round (or rather half oval) iron and place them on the floor, parallel, and close enough together so that the middle wheel of the box or truck will just fit in between them. You can line up duplicate pieces of iron in this way, and then when the middle wheels of the trucks are placed in this "track," all of the boxes will be in line.

Characteristically, OLD-TIMER and JIM had spent so much time in the carding and spinning departments that at this point in their visit the stopping whistle blew and it was necessary for them to conclude their visit and hence their conversation.



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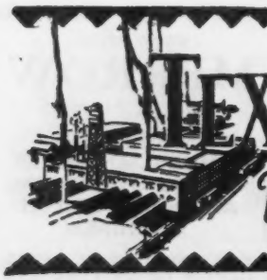

TEXTILE BOOKLETS *Worth Writing For!*

The booklets or catalogs briefly mentioned below may be obtained by any readers of COTTON who will write to the Company issuing them or to COTTON, Grant Bldg., Atlanta, Ga.

2. Pepperell Equipment—10 page illustrated booklet showing High Speed Warping from cones as adopted by Pepperell Manufacturing Company after thorough experiments, installation and product photographs. Issued by Universal Winding Company, Boston, Mass.

10. Leathers, Textile—Booklet No. 101, 48 pages, illustrated. Showing "Bondaron" Check Straps—Lug Straps—Harness Straps—Pickers—Belting, both round and flat, etc., Horsepower tables and other interesting information. By Charles Bond Company, 617 Arch Street, Philadelphia, Pa.

11. Whitinsville Rings—16 page illustrated booklet, describing ring manufacture, measurements, types, uses. How to determine flange sizes. By Whitinsville Spinning Ring Co., Whitinsville, Mass.

15. The Powers System of Thermostatic Control—"Slasher room is Bottle-Neck of Textile Mill." 18 page illustrated booklet showing importance of proper treatment of cloth in slasher room and advantages of Thermostat over hand control. Also room temperature control illustrations. Issued by Powers Regulator Co., 2739 Greenview Ave., Chicago, Ill.

21. Warp Sizing and Composition of Cotton—Folder containing reprints of articles carried by textile publications of interest to progressive mill superintendents. By Seydel-Wooley Co., 748 Rice St., Atlanta, Ga.

25. "Lupogum" and "Monopole Oil"—Two booklets on textile sizing and finishing products. Jacques Wolf & Company, Passaic, N. J.

28. Akron Belting—Practical rules and general information for users of belting with belting catalog. By Akron Belting Co., Akron, Ohio.

29. Continuous Card Stripper—A 20 page booklet describing in detail continuous card strippers, their advantages, the power required to operate, etc., Saco-Lowell Shops, 147 Milk St., Boston, Mass.

30. Lubrication of Textile Machinery—32 pages, illustrated. Data covering the economical lubrication of all textile machines. New York & New Jersey Lubricant Co., 292 Madison Ave., New York, N. Y.

38. Sleaziness in Full Fashioned Knitting—Illustrated survey with samples of fabric showing causes of sleaziness and methods to be employed in eliminating it.—By Textile Machine Works, Reading, Pa. (This company also issues parts catalog for Reading full fashioned machines with general information on subject of full fashioned knitting.)

62. Rubber Products for the Textile Industry—A 40 page booklet giving a wealth of information on the proper selection, installation and operation of rubber belts, together with charts showing horsepower rating, pulley sizes, V-belt sizes, also information on all types of hose and rubber covered rolls used in the textile industry. Manhattan Rubber Mfg. Division of Raybestos-Manhattan, Inc., Passaic, N. J.

64. Efficiency and Performance of SKF Roller Bearing Spindles—A twelve page booklet showing the advantages in power consumption, increased production, savings in lubrication, increased yarn breakage strength to be secured through roller bearing spindles. SKF Industries, Inc., Front St. and Erie Ave., Philadelphia, Pa.

65. Why Cooper Hewitt Light is Better Than Daylight—A 16 page booklet explaining in detail the importance of good lighting and the necessity of proper quality as well as proper quantity of light. General Elec. Vapor Lamp Co., Hoboken, N. J.

66. Dronsfield's Patent Portable Auto-Feed Needle Point Grinder No. 176—describing a new departure in card grinding—John Hetherington & Sons, Inc., 250 Devonshire St., Boston, Mass.

70. Fafnir Ball Bearings for One Process Pickers—outlining the advantages of ball bearings in guaranteeing smooth, accurate motion, particularly on eveners, as well as uninterrupted production, ease of operation and cleanliness of bearing units throughout the one-process pickers. Fafnir Bearing Company, New Britain, Conn.

72. The Merrow Butted Seam—A 16-page booklet defining and illustrating the Butted seam, describing its properties and outlining some of the advantages to be gained by its use in textile fabrics. The Merrow Machine Co., Hartford, Conn.

77. Bulletin S 200—Illustrating and describing the new Reeves Variable Speed Drive for spinning and twister frames, explaining its many distinct advantages, and giving charted results of exacting tests. Reeves Pulley Company, Columbus, Indiana.

78. Booklet L 1289 A—Loom Motors and Control—giving details of the low installation, operating and maintenance cost of Westinghouse Loom Motors. Westinghouse Electric & Manufacturing Company, Room 2 N, East Pittsburgh, Pa.

88. Dayton Cog Belt Catalog—A 32 page booklet full of vital information on power drives, plainly and simply assembled and arranged so that anyone can select the proper standard drive for any condition. It also provides data for the calculation of drives where acquired. The Dayton Rubber Mfg. Co., Dept. C-11, Dayton, Ohio.

90. Atwood Booklet—Describing Atwood Winders, twisters, wire swifts, and various types of feed rolls—useful to throwsters interested in learning the principal features of various Atwood machines. Atwood Machine Co., Stonington, Conn.

91. Illustrated Buyers' Guide and Catalogue—Of interest to every dyehouse executive, not only telling what dyehouse equipment is available in Monel Metal but also where to get it. The International Nickel Co., Inc., 67 Wall St., New York, N. Y.

93. Metso — Describing this industrial cleanser which has wide use in industrial cleaning of metals, floors, etc., and is used in kier boiling, silk and rayon degumming. Philadelphia Quartz Co., 121 S. Third St., Philadelphia, Pa.

94. New Development by Onyx — Eight page booklet describing and giving uses of new developments in sulphonated aliphatic compounds . . . called Aliphatic Ester Sulphate and Glyceryl Sulphates. Onyx Oil & Chemical Co., 15 Exchange Place, Jersey City, N. J.

97. Suggestions For The Modern Silk and Rayon Throwster — describing the various uses for Laurel Brand Products and giving valuable suggestions in silk-soaking, degumming, dyeing, sizing and finishing. Laurel Soap Mfg. Co., Inc., 2600 East Tioga St., Philadelphia, Pa.

98. Saving Labor, Material and Power in the Textile Industry. A 20 page booklet showing the advantages and typical installations of temperature, pressure and humidity instruments and controllers in various processes of textile manufacturing. Foxboro Co., Foxboro, Mass.

102. White and Light Shade Cotton Fabrics Dyeing and Finishing—National Oil Products Co., Harrison, N. J.

103. Throwing Rayon Crepe—National Oil Products Co., Harrison, N. J.

106. Cotton System Warp Sizing on Multiple Cylinder Machines—a folder showing the advantages of this type of machine in making warps of acetate and other synthetic yarns and spun silk.—Charles B. Johnson, Paterson, N. J.

107. Complete Information on Alemite Lubrication. Showing how costs can be reduced through proper lubrication. Alemite Corp., 1828 Diversey Blvd., Chicago, Ill.

109. Some Properties of Starch and Dextrine.—Explaining certain fundamental properties of starch and its derivatives and their action when heated and agitated. Stein, Hall & Co., Inc., 285 Madison Ave., New York City, N. Y.

110. 3-In-One for Industrial Uses—showing the many industrial uses and advantages of this oil. Three-In-One Oil Co., 70 Varick St., New York, N. Y.

114. Denman Parts for All Makes of Looms—showing drawings and dimensions of Denman pickers, hold-ups, bumpers and bunters made of fabric and vulcanized rubber. Denman Tire & Rubber Co., Warren, Ohio.

115. How to Cut Cloth Room Costs with Automatic Picking Machines and Improved Inspecting Machines—Hermas Machine Company, Warburton Ave., Hawthorne, N. J.

117. Anti-Friction Bearings as Applied to Spinning, Drawing and Twisting Frames—This bulletin shows with detailed drawings how a simplified design of roller bearing applications is made to replace the plain babbitt bearings and lists the advantages that are gained. It deals primarily with better continuous production and in consequence freedom from equipment care and repairs. Hyatt Roller Bearing Co., P. O. Box 476, Newark, N. J.

119. The World's Finest Sewing Machines—a condensed catalog giving details of the various Willcox & Gibbs sewing machines. Willcox & Gibbs Sewing Machine Co., 658 Broadway, New York, N. Y.

120. Goodyear Mechanical Rubber Goods Catalog—40 page catalog giving practical information and tables helpful in the selection of the proper belting, hose or packing to suit the requirements of the mill. Goodyear Tire & Rubber Co., Akron, Ohio.

121. Engineered Packages for the Textile, Dry-Goods and Apparel Industries—Showing the savings to be made through the use of properly engineered packages of corrugated fibre in the shipping of yarn, woven and knitted products. Hinde & Dauch Paper Co., Sandusky, Ohio.

122. Water Filters and Filtration Equipment—Containing complete description of the chemical processes involved in the coagulation and precipitation of foreign matter, the removal of iron, oil, manganese from water and the production of clean water suitable for the textile industry, together with tables of specifications for standard filters, and information showing the extra profits to be made by the mill through reduction in costs and process difficulties, through removal of undesirable impurities in water. Permutit Company, 330 W. 42nd Street, New York, N. Y.

125. More Light with Lasting Cleanliness—a booklet pointing out the many advantages of white paint and the qualities to be looked for to get the greatest value in such paint. U. S. Gutta Percha Paint Company, Providence, R. I.

131. Houghton's Leathers for the Textile Industry—This valuable handbook contains 88 pages of data on the proper selection and application of all types of textile leathers, including belting, special spindle belts, round leather belts, loom leathers, mill strapping, leather aprons, etc.—E. F. Houghton & Co., 240 W. Somerset St., Philadelphia, Pa.

135. The Pick Method of Weaver Wage Payment—A manual of practical information describing methods to be followed in using Pick Counters; suggested forms, and tables included. Durant Manufacturing Co., 1932 No. Buffum St., Milwaukee, Wis.

138. Constant-Level Oilers—Booklet, describing oilers which maintain correct oil level at all times, preventing burning out of motors and bearings. Gits Bros. Mfg. Co., 1851 S. Kilbourne Ave., Chicago, Ill.

139. Textile Detergents—Theory of the use of alkalis and control of pH.—This 32 page booklet explains in simplified manner for the benefit of the layman the chemical processes that take place in using textile detergents in the finishing of textile goods. It contains many useful tables and data. Detergent Products Corp., Peachtree Bldg., Atlanta, Ga.

140. Textile Machinery—Improvements in Design and Methods of Lubrication. A discussion of the problem of lubrication of textile equipment, covering operating conditions and factors affecting and affected by lubrication. Card Room Operations, Twisting and Spinning Machines, Silk Throwing, Looms, Knitting Machines, etc., covered. Available in copy of June 1934 issue of "Lubrication." The Texas Company, 135 E. 42nd St., New York City.

144. Some Causes of Low Productivity of Textile Workers—An interesting pamphlet comparing the output per worker in cotton mills with the output per worker in other industries of the country for the last several years. Emmons Loom Harness Company, Lawrence, Mass.

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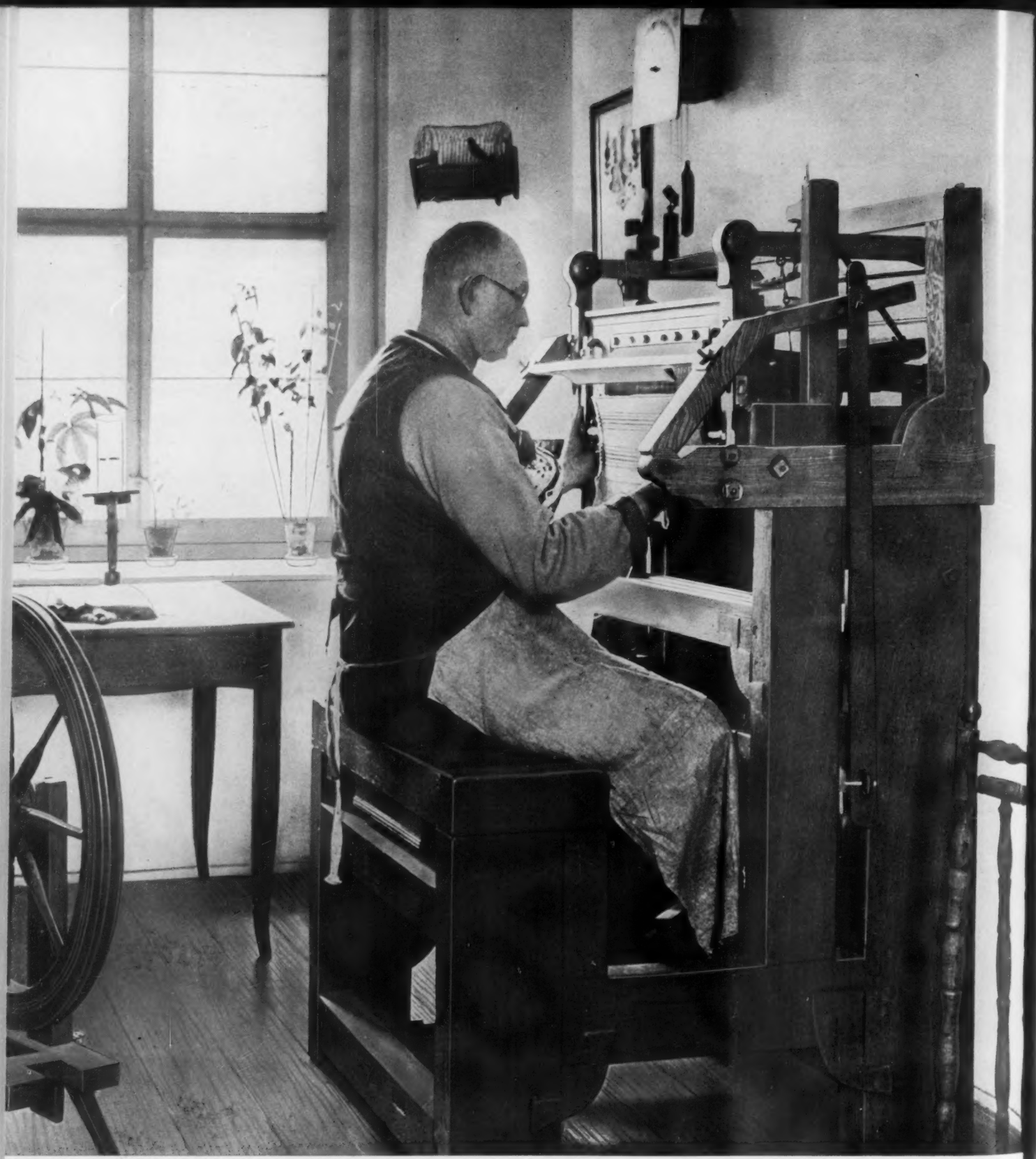

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Press-Offs in Full-Fashioned --Their Causes and Remedies

By M. M. Abrams
Ajax-Vertex Associates

IN THE actual making of a full-fashioned stocking, each succeeding loop in the welt, boot and instep is formed with a single silk thread for each section on the machine and if, for any causes whatever, a thread is no longer carried into the needles to form a loop, then through the motion of the needles *pressing* against the presser head to release the preceding loop, it will cause the stocking to come *off* the needles. That is where the trade phrase "Pressing-Off" or "Press-Offs" is derived.

The term press-off also applies to any defect in any part of a stocking which is of a serious enough nature to compel a knitter to take that stocking off the needle head before being allowed to proceed with finishing the other stockings of the same set on his machine.

Press-offs are an expensive evil in hosiery manufacturing both to the knitter and the manufacturer, especially when one considers that on a 20-section machine every pressoff on a set means 5 per cent lost in pay to the knitter as well as 5 per cent lost in production to the manufacturer for the time it takes to make a full set. Besides this, consideration must be given to the loss of time required for topping-on another stocking, plus the waste of silk. In several cases, dissension has developed among the help in a hosiery mill because knitters are not expected to remedy or are helpless to prevent the causes of their press-offs. This is why too much stress cannot be given by everyone concerned in the manufacturing of a stocking to the importance of eliminating press-offs to a maximum degree.

We know that there are numerous causes for press-offs. In the following paragraphs we will try and enumerate some of the principal causes and remedies.

It is very essential whenever receiving silk from the throwing or winding departments that both the silk and the winding be carefully inspected for defects such as split silk, dirty silk, underwound silk at the bottom of the cone, loose knots, and knots not properly tied at the outside top of the cone; also improper throwing solutions. All of these defects originate at either the throwster or the winding department. They are a great source of waste and expense to the manufacturer and one of the main causes of dissension among knitters as the latter are helpless to remedy or prevent press-offs which may be caused by such conditions in the silk.

On the other hand, the greater amount of press-offs are generally caused by the careless or improperly trained (or both) knitters. When a knitter places a silk cone in the humidor or damp box, care should be taken that the cone is properly placed upright in the center of the round felt on which the cone should rest and that a little topper's waste is placed underneath it to prevent the cone from leaning sideways when the silk is running low. The purpose of the felt is to stop the silk end from slipping underneath the cone which would then cause the silk end to break.

Care should be taken that the silk end is properly threaded through the porcelain eyelets and felt pads of the water system used for moistening the silk thread. These eyelets should also be examined regularly to make certain that they are clean and free from sediment and dirt. The felts should also be examined to see that they are clean and free from cuts that would cause the silk thread to sink into the felt and break when a knot goes through, or split itself, thereby causing slubs. The guide rings and snappers should also be examined for cleanliness. Care should be taken not to have too much tension on the snapper spring for if too tight it will make a press-off or if too loose will make a bad selvage and will also cause a press-off. In fact, every eyelet and ring that the silk passes through on its journey from the silk cone to the knitting needle should be kept clean and free from gum, sediment and dirt.

All carrier tubes should be examined to make sure that they have not become sharp. A sharp tube will cause a press-off quicker than anything else and if the knitter finds one he should remove it at once. Care should also be taken that the carriers are adjusted properly. A carrier is "off" when too high above the sinkers or too low below the sinkers. The proper adjustment of a carrier is 1/64-inch below the sinker. A high carrier causes loops—a low carrier causes cut threads, broken dividers or broken carrier tube. One cannot emphasize strongly enough the importance of the correct adjustment of all carriers.

Sharp needles at the selvage end of the section will also cause press-offs as these will eventually cut the silk.

Press-offs are caused by forgetting the slacker, forgetting to lock a friction, forgetting to put on or take off rockers, forgetting to put in the caulker.

The writer has enumerated only the principal causes of press-offs, and their remedies will insure a knitter not only better production but will save a mill many dollars in a year's time. Press-offs are lost money even at the best and the fewer the press-offs, the less dollars that will be needlessly expended.

Should press-offs be topped-on or back-wound? This question has arisen in practically every mill in existence and there are exponents and opponents for both procedures. It is the opinion and judgment of some of the best experienced and qualified mill su-

perintendents that press-offs should be topped on in preference to back-winding.

The topping-on of press-offs has a psychological effect on the hosiery knitter. If the hosiery knitter knows that he has to top-on press-offs it will cause him to take care to prevent press-offs and will eliminate carelessness in operating his machine.

Topping-on press-offs saves production which would be entirely lost if press-offs were back-wound. A certain amount of labor, power, etc., has been invested in the press-off and if it were back-wound this would be entirely lost and would of course show a loss in the production schedule as well.

There is also the saving of the cost of back-winding if press-offs are topped-on. There is the saving of the labor involved in back-winding, the cost of the machinery and floor space, power, material, etc.

Back-wound silk is inferior. Silk that is back-wound retains the shape of the stitch and is kinky and difficult to rewind on cones. It is almost impossible to wind an even cone from back-wound silk and this will cause the knitter trouble as his tension will continually vary as he is running off the cone of back-wound silk.

Silk loses a certain amount of its strength and life when it is back-wound. It has already been put through the knitting operation and the back-winding means an additional amount of handling and this has a tendency to detract from its strength.

Back-wound silk has already been humidified once and if it is again humidified there is very often the possibility that the humidification will not be even and thorough.

In back-winding there is bound to be a number of breaks in the thread which will cause knots on the cone when these broken threads are tied up. These knots may catch as the cone is being unwound in the knitting process and cause additional press-offs. Too many knots makes a stocking a substandard or even a second if the knots manage to pass through the carriers satisfactorily.

Sometimes a knitter may have a set or two of press-offs. In a large plant a number of these may occasionally accumulate. A good plan is to collect these press-offs and have them sorted according to length. Sets of 20 stockings (if 20-section machines are in operation) of about the same length are then made up. A set is then assigned to a knitter and he is given credit for all good stockings that he turns in. These press-offs sets are distributed in rotation so that every knitter in the plant at sometime or other has to run off a set of press-offs.

Press-offs are sometimes excusable when they are not the knitter's fault. In the greater number of cases, however, press-offs are due to carelessness, laziness and neglect on the part of the knitter. Knitters should be taught to take a certain amount of personal pride in their work and should be educated to the fact that their carelessness not only costs the firm money but also reduces the amount of their own pay check. There will always be advocates for back-winding and topping-on but if press-offs are eliminated or minimized at their source that is the place where the real saving can be made.

Hosiery Stocks Decline; Code Authority Report Reveals Usual Seasonal Market Stabilization

Decrease in stocks of hosiery on hand in manufacturers' plants was recorded at the end of August for the first time in three months, according to the monthly statistical bulletin of the Hosiery Code Authority, published in mid-October. Inventories as of August 31 were 17,318,822 dozen pairs, or lower than any month since March when stocks on hand were 17,053,423 dozen pairs. After a steady increase in inventories for the past several months, a decline at this time can be regarded as largely seasonal in character and indicative of general improvement in the strength of the market.

Particularly is this true, when it is realized that both production and shipments were higher during August than they were in July, it is pointed out. Shipments of 8,765,694 dozen pairs during August were higher than those made during either of the two months preceding, and production of 7,731,343 dozen pairs exceeded those of July by 1,288,454 dozen pairs.

Stocks on hand at the end of August were lower than at the end of July for every type of hosiery except women's seamless rayon hosiery, men's seamless silk half hose, men's golf hose, and anklets. They were lower than at the end of June for all types except women's full fashioned hosiery, women's seamless rayon hosiery, men's seamless silk half hose, men's seamless wool half hose, men's golf hose and infants' anklets.

The increase in production during August as compared with July was reported for every type of hosiery except women's seamless silk hosiery, men's seamless silk half hose, and anklets other than infants'. Increase in shipments were reported for all types except men's golf hose and anklets.

A feature included in the latest issue of the bulletin for the first time, is a table of "Stock Turnover". This shows the turnover of all types during the 12 months ended August 31 as compared with that for the 12-month period ended July 31. Total shipments for the 12 months ended August 31 have been compared with estimated average stocks on hand during the period giving a turnover for all types of six times during the year. The turnover for the 12 months ended July 31 is also six.

The table also gives comparisons for turnover during the period discussed as compared with the 12-month period ending July 31. This shows a few changes in the rate for the two periods under comparison.

KNITTING KINKS

Practical Discussions by Cotton's Readers on Various Knitting Subjects

Preventing Noise in Loopers

A couple of kinks—and an invitation to other men, which we heartily endorse, to discuss looping and seaming problems . . . . . .

EDITOR COTTON:

I would like to do my part toward developing some further interest in your "KNITTING KINKS" department on the subject of looping and seaming, in which departments I have had a great deal of my experience. As a starter, I am going to describe here an easy way we found to eliminate the noise caused by the back lash of the gears No. 18 and No. 19 on a Wright steady dial looper. After a machine has run for a long time, the teeth on these gears become worn and get noisy due to the action of the cutter and brush. This applies more especially to the old style straight tooth gears.

This trouble can be overcome in two or three different ways. A new set of gears is one sure way; keeping the ball joints on the cutter and brush arms tight is another. Either one of these methods is all right, but of course new gears cost money, and it takes a lot of the fixer's time to keep after the ball joints and keep them tight.

Here is a simple little "kink" which we use on a machine that becomes noisy: Take a piece of leather belt and loop around the shoulder of the gear that is on the end of Shaft No. 21 and over the top of gear

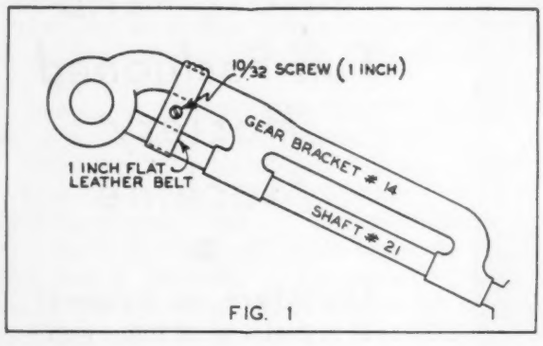

FIG. 1

bracket No. 14. Fasten the two ends of the belt together with regular belt hook and raw-hide pin. Punch a hole through both sides of the belt about in the middle and put a 10-32 flat head screw about 1 inch long through the holes between the shaft and the gear bracket. Put a washer and nut on the other end, and draw the two sides of the belt together just enough to put a slight friction on the shaft. This will take the noise out of the gears and will save a lot of time and money.

I have illustrated the application of this "kink" in Fig. 1 herewith.

Another part of the old style Wright steady dial looper that makes the looping department noisy is the shifting of the needle arm cam No. 27E. This cam moving back and forth keeps the needle arm in time with the dial as it moves around.

As the cam moves up, it tapers down to allow the needle arm to be in position to start in the next point as the dial moves around. If the bevel on the cam is too steep, it will cause a click, click, which sometimes gets to sounding like a broken gear.

One way to overcome this trouble is to take the needle arm cam off and change the bevel on it so as

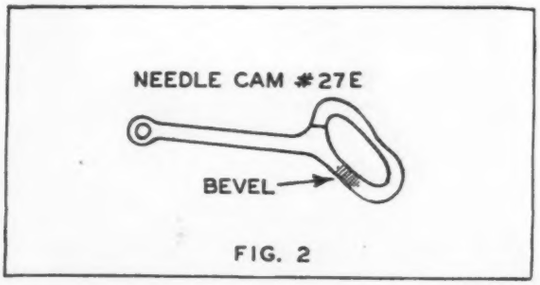

FIG. 2

it will not be quite so steep. In grinding it, be careful not to grind up or down too far as it may keep the needle arm from tracking in the point.

Before re-assembling the needle arm, be sure the

WE invite our readers to make use of this department for the discussion of any and all problems arising in connection with the knitting mill from the office to the packing and shipping departments. Questions, answers or letters need not conform to any particular style and will be properly edited before publishing. All questions will be answered as promptly as possible. The names and addresses of the contributors must be given, but will be held in confidence and a pen name substituted when printed. All acceptable contributions other than questions will be paid for after publication. The editors do not hold themselves responsible for any statement of opinion or fact which may appear in this department unless so endorsed. This department is open to all.

◆ ◆

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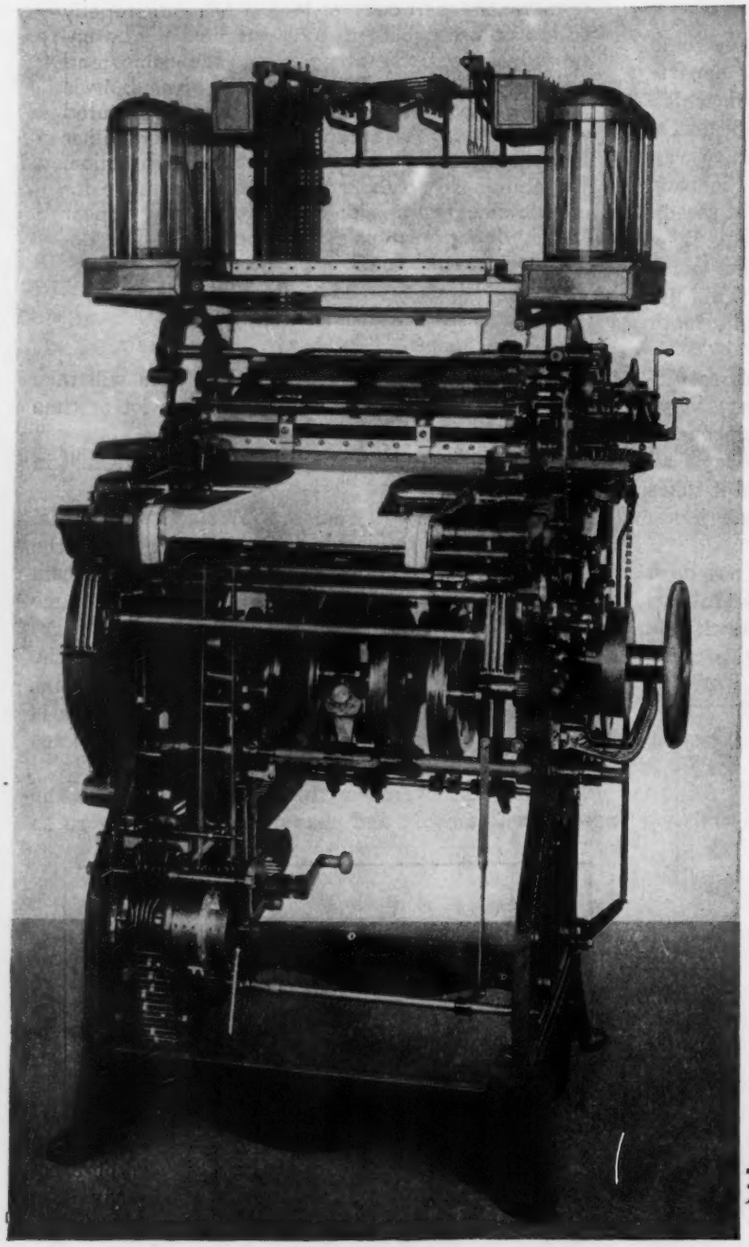
WILDMAN
THE WORLD'S STANDARD



FASTER and more accurate than ever . . . the new Wildman Single Head Full-Fashioned Knitting Machine. As the stocking is completed the improved rack back moves the points and yarn carriers back to the starting position and lays the first course of yarn on the needles. All the operator needs to do is put in the welt bar and turn the starting handle.

Remember, too . . . that the new machine saves 20% in floor space.

The
WILDMAN
SINGLE HEAD
Full-Fashioned
Hosiery
Machine

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NORRISTOWN
PA.

spring No. 28 is not too stiff. It only needs to be stiff enough to slide the needle arm back, and if it is stronger than necessary it will wear the needle arm cam out or start it to clicking just that much quicker. I have shown this needle arm cam No. 27E in Fig. 2, herewith.

I would be very much interested if some of your other readers who have the responsibility of looping and seaming would submit some of their ideas to "KNITTING KINKS", either telling what they have found to be helpful, or submitting some questions for discussion which I would be very pleased to attempt to answer.

CONTRIBUTOR No. 6342.

More Opinions on Soap versus Oil for De-Gumming; and One-Bath versus Two-Bath Dyeing

Several contributors bring up-to-date descriptions of their practices as compared with what they were doing in 1932 . . . . . .

THE article on page 123 of the April 1934 issue of COTTON, by Mr. Daniel, advocated the use of degumming oil instead of soap, and the one-bath method for dyeing and degumming silk hose. Sometime previously, in answer to a question from "CONTRIBUTOR No. 6088", several mills gave their practices at that time (1932) in these respects. In connection with the discussion by Mr. Daniel, expressions were secured from several of the contributors as to their present practice compared with what they were doing when they answered the original question in 1932.

One of these mill men, "CONTRIBUTOR No. 6095", stated in the November 1932 issue, "We prefer the best grade of olive oil soap for degumming rather than the so-called boil-off oils, chiefly because soap gives us a cleaner fabric. Boil-off oils are mixtures of soluble oils and alkali and as a class are more apt to damage silk than is soap. We use the two-bath method because we prefer to start our bath with clean goods rather than in a bath containing sericine, knitting oils and other foreign matter as is the case in the one-bath method."

Last month, "CONTRIBUTOR No. 6095" made the following comment as to his current practice.

"Since our letter to you of two or three years ago, we have done a great deal of experimental work in an effort to determine which of the two methods was the more desirable—the one-bath or two-bath. We have tried several variations of the one-bath method, including the split bath which consists of partial degumming in the first bath and a completion of the degumming process together with dyeing, in the second bath. We have also varied the materials used for the various methods. Olive oil soaps, oleic acid potash soaps, several brands of boil-off oil, sulphonated oils with soda ash, tri-sodium phosphate or sodium silicate, have all been tried in a practical way.

"It is still our opinion that the best procedure is to de-gum separately in as short a time as possible, and to thoroughly rinse before dyeing. This procedure positively insures clean hosiery going into the dye bath. One of the most common troubles with the one-bath method is caused by improper rinsing. The trouble I refer to is the formation of soap, oil, grease or gum spots, commonly called 'niggerheads' in the trade. We have been unable to find any way of definitely doing away with this trouble, since after dyeing in the one-bath method, hot rinsing is very apt to ruin the shade; at the same time hot rinsing is absolutely necessary if the hosiery is to come out clean.

"All of our objections to the one-bath method or variations thereof are summed up in the preceding paragraph. We are still of the opinion that the best work is obtained by the two-bath method using a high grade olive oil soap for degumming. All of our hosiery is processed by the two-bath method."

Another man who rendered an opinion in November 1932 COTTON was "CONTRIBUTOR No. 6097", who said at that time, "We degum and dye in the one bath, both chiffon and service weight hosiery. A good grade neutral olive oil soap is used for degumming, which we believe removes the sericine with the minimum of action on the fibroin." He now writes as follows:

"Our present methods of degumming and dyeing hosiery are the same as those of two years ago—we have made no changes. That is, we still use as a degumming agent a good grade of olive oil soap and we degum and dye in the one bath. This applies to service weight hose as well as chiffons.

"Briefly, we feel today as then, that a good grade of soap is an excellent degumming agent and with the one-bath method the shades are secured in a minimum length of time, all of which tends to reduce friction or wear marks. Finally, our resulting shades are clear, the fastness to washing good, and the fabric has the proper feel or handle."

Another man answering the question in November 1932 was "CONTRIBUTOR No. 6099", who said then, in part:

"For years we were firm believers in the two-bath method of dyeing for all hosiery, using olive soap for degumming. With the introduction of specially prepared sulphonated castor oil, we gradually changed to their use for degumming silks, using an oil with a pH value of 8.1 to 8.3 in connection with a certain percentage of silicate of soda. * * * During the last year and a half we have put into practical and satisfactory use the one-bath method for all hosiery, obtaining results far superior to anything known in the past. * * * ."

This man now describes his present practice as follows:

"Since giving you the last information we have made a change insofar as to apply the so-called split degumming method, which is a modification of the one-bath dyeing method. The process is as follows:

"(a) A bath is prepared with a small percentage of soap in which goods are run for 10 to 15 minutes after which the liquor is dropped.

"(b) A fresh bath is prepared with remaining percentage of soap plus dyestuffs and salt, and dyeing is done according to the regular one-bath method.

Stockings that pass the "close-up" test.

The hosiery manufacturer's choice of needles is based on his confidence in the fabric they produce. That we are America's largest producers of Spring-Beard Needles and that nearly all manufacturers of fine quality silk stockings are standardized on Royersford Needles is a tribute to unfailing results.

The prescription for better knitting

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ROYERSFORD NEEDLES

"In the split degumming method a preliminary scour is obtained in the (a) bath which removes throwing oils, tints, etc., and softens the silk glue to a certain degree. We developed this method primarily on account of being troubled with oil spots in finished goods.

"The degumming agent used is of a potash soap base of a fairly low titer. The lower titer of the soap the better the rinsibility.

"The reason for not using a boil-off oil is due mainly to the lack of obtaining a suitable one for our purpose. Most boil-off oils contain sodium silicate which when used in a Monel metal machine, in some instances, has a reducing effect on the dye, making the matching of shades very difficult.

"The degumming soap imparts a very desirable feel to the hosiery and besides combines with the silk glue in the bath in imparting body to the hosiery. On goods that are very oily or dirty, scouring oils of the cresylic acid type are used in our degumming method."

Helpful Hints on Standard Knitting Machine Fixing

(Editor's Note—This is the fifth in a series of articles discussing the parts of Standard knitting machines and giving helpful, practical suggestions on fixing them. The first article appeared on page 129 of the April issue and gave a history of these machines. The second article, on page 127 of the May issue, covered the parts shown on Plate I in the Standard catalog. The third article, covering Plates 2, 2A and 3, was on page 105 of the July issue. The fourth article, covering Plate 4 and 5, was on page 101 of the September issue.

The numbers in parentheses following the names of parts are the numbers used by the machine manufacturers for the various parts. It is suggested that the reader refer to the plates in question in the Standard catalog in reading these discussions, and that he clip these articles and file them in the catalog with the various plates for further reference.)

Plate 6—Standard

EDITOR COTTON:

This plate shows a complete needle cylinder assembly including all parts from the sinker dial cap down to the cylinder gear. The general appearance and function of the parts shown is very similar to that of the corresponding parts used on other makes of circular machines. The man who was trained on Scott & Williams or Banner machines and understands them will have little difficulty in making adjustments and keeping the various parts shown here in good shape.

The Sinker Dial Cap Assembly

The sinker dial cap is provided with two adjusting screws (H-1065)—usually referred to by most fixers as bumper screws—which are used to get the proper throw or time the sinker cap so the sinkers will move *inward* and *outward* in proper relation to the needles as they pass over and under the stitch cams. I doubt if there is a single adjustment on the whole machine which is *misused* or *abused* as much as the sinker dial cap adjustment.

It is usually one of the first adjustments that the average apprentice begins to tinker with, and as a rule he is not definitely sure whether the adjustment is right or wrong. When he finds a machine cutting holes or dropping stitches in the gore, he will attempt to overcome the trouble by changing the bumper screw adjustment, eight times out of ten. Experienced machine fixers often do the same thing simply because they develop the habit during their apprenticeship. There is a right and wrong way of making this adjustment and each man has his own idea; if he gets results he must be right, if he has trouble, well, he must be wrong. (Further reference will be made to this subject in connection with sinker cam adjustments).

The sinker dial cap is supplied with a filling-in ring which holds the sinkers in position so they keep the knitted fabric from creeping upward during the knitting operation. Three clips are used to hold the sinker dial cap down. Most fixers prefer the new spring clip (K-618), as it prevents the cap from chattering while reciprocating. This was difficult to overcome with the old style clip (K-411).

Standard machines use only *one* sinker cam which is of simple design and easy to adjust. Most circular machines use three sinker cams, a right-hand, a left-hand, and a center sinker cam. Standard sinkers are well controlled and are not subject to excessive vibration due to the design of the filling-in piece, the sinker cam and the sinker itself.

Standard sinkers are similar to those used in other circular machines except that they are longer overall and have a recess in the top just wide and deep enough so that the sinker cam and filling-in piece will fit into the recess. Thus the butt of the sinker is used only to move the sinker outward and the inner shoulder to move the sinker inward. The sinker hold-down ring plays an important part in controlling sinker movement. It also serves as a bearing surface for the dial cap and keeps it in perfect alignment with the sinker dial. It must be remembered that Standard machines were built to run at high speed, therefore it was important to assure good control of the sinkers. The sinker, dial cap and cam arrangement of the machine has stood the test of time.

Adjusting Sinker Cams

Every fixer of course has his own idea as to how sinker cams should be set. He usually refers to this adjustment as setting sinkers, and has some sort of rule or method to go by so he can tell when the adjustment is correct. Various kinds of trouble usually tell him when he is wrong and quite often he simply can't believe it. He knows he followed out his pet rule, it has always worked before. He is at a loss to understand why he is unable to overcome some particular trouble which he is confident is being caused by sinker cams not being set right. As a rule, knitting troubles which are caused by improper sinker cam adjustments show up in the form of holes cut in the heel and toe gores, dropped stitches in the gores, or skips where the heel and toe yarns did not knit in at all on a number of needles, causing a large hole.

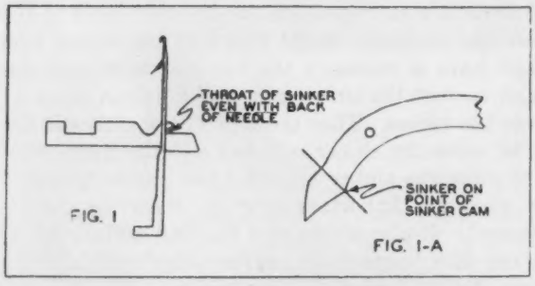
Other troubles such as wavy heel and toe knitting, misplaiting, tuck stitches, etc., can also be caused by

improper sinker cam adjustment.

Many of the troubles mentioned can be caused by other things and still *appear* to be caused by sinker cams not being set right. Such cases call for careful analysis by the fixer. He must dig down and get to the bottom of the trouble. Experience and plenty of it to draw from is what counts. Now, there really is no mystery connected with setting sinker cams and I will attempt by word and sketch to make a few suggestions concerning these adjustments.

There are two important factors which must be kept in mind when making sinker cam adjustments. These are, first, *how far in* the sinkers should move in relation to the needles; and, second, the *time* at which the *inward movement must be made.* The experienced fixer will set sinker cams so the throat of the sinker comes in far enough to be even or flush with the back of the needle when the sinker is on the point of the sinker cam. The relation of sinker to needle is shown in Fig. 1 and the sinker resting on the point of the sinker cam is shown in Fig. 1-a.

It is unnecessary for sinkers to come *in deeper* than shown in Fig. 1, and trouble will develop if this is the case. On certain types of goods which must be knit very tight or where tender yarns must be used, it is advisable not to move the sinkers in quite as far as shown in Fig. 1. A great deal also will depend on whether forward or central hook needles are being

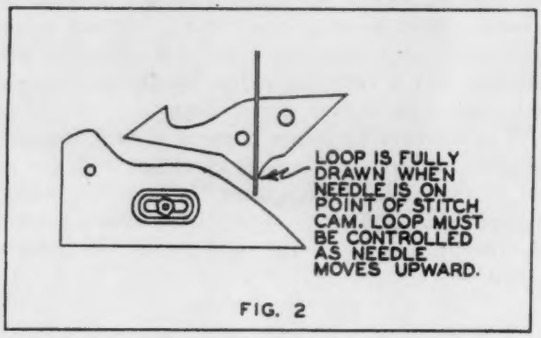


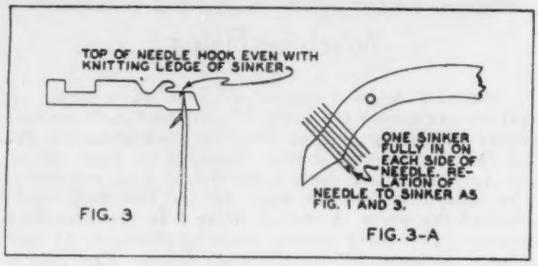
used. Forward hook needles naturally require less inward movement of the sinkers than central hook needles do. The proportion of size or weight between the heel and toe yarns, and the leg yarn, must also be considered when making sinker cam adjustments. If for instance the leg yarns are of normal size, according to the needle gauge, and knit reasonably tight, and the heel and toe yarns are very heavy so the needles are loaded to their full capacity, it will be necessary to set the sinkers fully in as shown in Fig. 1 in order to prevent excessive heel and toe knitting troubles. Tension on the various yarns must also be taken into consideration, for we know that every type of yarn possesses only a certain amount of elasticity, and excessive pressure on the yarns either by sinkers or by tension will surely spell trouble.

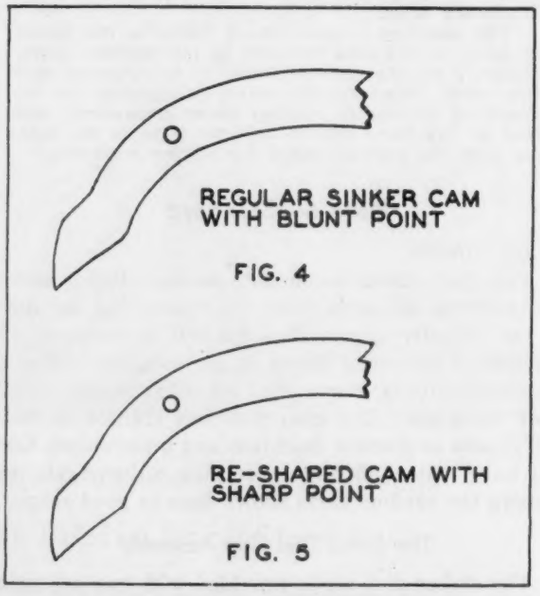
In most cases it will be found best to make sinker cam adjustments that will take care of the heel and toe knitting. These as a rule will suffice for leg knitting also. In short, if you set sinkers for *distance in* by *guess*, you can expect *trouble* by gosh! So much for the first factor.

Now, we come to the second factor, *the time* at which the *inward movement* of the sinkers must be made. This adjustment must be made according to the time when the loops are fully formed and the needles leave the point of the stitch cam to be moved upward by the end cams. In timing the sinker dial cap, *first* make sure that the sinker cam is properly set for *distance in*, then time the dial cap so there will be *one sinker fully in on each side of a needle when the top of the hook is up level with the knitting ledge of the sinker.* Note Fig. 3 and Fig. 3-a.

Make this adjustment with the cylinder reciprocating, and watch the first needle coming up from under the stitch cam next to the last elevated needle. More accurate adjustments can be made without fabric on the needles. Keep in mind that when the needle butt reaches the point of the stitch cam, the loop is fully drawn, the sinkers must come in *far enough* and *soon enough* to take care of the fully drawn loops as the needle begins to move upward. Sinkers were never intended to *force* or *push* loops off of the nee-




TOP OF NEEDLE HOOK EVEN WITH KNITTING LEDGE OF SINKER
FIG. 3
ONE SINKER FULLY IN ON EACH SIDE OF NEEDLE. RELATION OF NEEDLE TO SINKER AS FIG. 1 AND 3.
FIG. 3-A



Travelers once depended on the covered wagon—

but today's way is the streamlined train

TORRINGTON NEEDLES ARE MADE TODAY'S WAY

In its day, the prairie schooner was a perfectly reliable mode of transportation. But its day passed; and Progress gave us newer, better, more modern equipment . . . culminating in the swift, motorized, streamlined train of today —newest marvel of the machine age.

Similarly, Progress (Torrington Progress!) developed a newer, better, more modern method of needle-making . . . the *machine* method. Torrington needles, accurately made from start to finish by mechanical methods, are even *checked* by machines . . . so that your production schedules can be maintained at high speed levels, with idle time cut to a minimum . . . with uniformly-knit fabrics the natural result of uniformly-made needles!

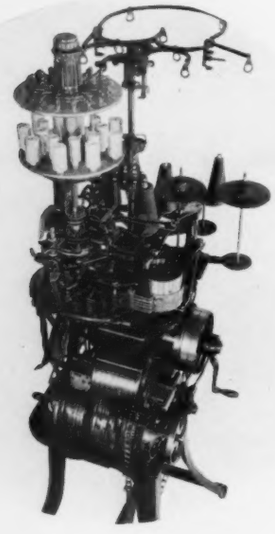
TORRINGTON *SPRING BEARD* NEEDLES

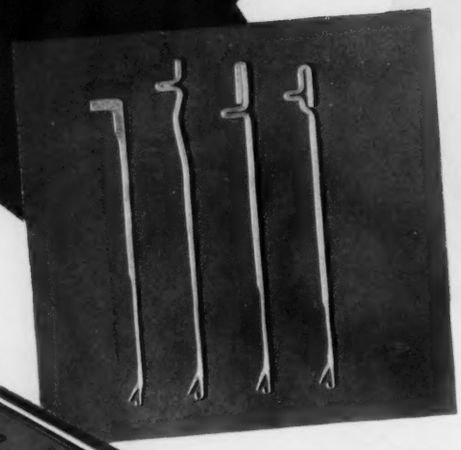
FINE *fabrics*

The Wilkes Hosiery Mills Company knit this fine hosiery on a Banner 19 Independent Step Wrap Stripe Machine equipped with TORRINGTON NEEDLES.

● No doubt about it today—the mill that produces fine fabrics is the mill that gets the orders! Fashion demands better and better workmanship, finer and finer fabrics.

Perhaps that is why so many mills are standardizing on Torrington Needles. For these uniformly-made, accurately-made needles give the modern knitting machine the chance it deserves. Torringtons are unvarying in temper and dimension. They "do their part"—yes, more than their part—in producing evenly-knit, artistically-knit, fine, fashionable fabrics.





The Torrington Company

ESTABLISHED 1866

Torrington, Conn., U.S.A.

BRANCHES:

THE TORRINGTON COMPANY,	1640 FAIRMOUNT AVE.,	PHILADELPHIA
THE TORRINGTON CO., INC.,	200 FIFTH AVE.	NEW YORK, N. Y.
THE TORRINGTON COMPANY,	538 SOUTH WELLS ST.,	CHICAGO, ILLINOIS
THE TORRINGTON COMPANY	UNITED BANK BLDG.	GREENSBORO, N. C.
THE S. M. SUPPLIES CO.	210 SOUTH STREET	BOSTON, MASS.
LOS FABRICANTES UNIDOS,	964 CALLE BELGRANO.	BUENOS AIRES

FACTORIES AT:

TORRINGTON, CONN. • UPPER BEDFORD, QUEBEC
COVENTRY, ENGLAND • AACHEN, GERMANY

TORRINGTON *Latch* NEEDLES

dles, but rather to hold them so they roll off of the top of the hooks without pressure from the sinkers.

Sinker dial caps can be timed more accurately if the machine is equipped with new style adjustable end cams, as these cams raise the needles quicker than the old style end cams. (The new style end cams were fully described in the September issue of COTTON.) In timing sinker dial caps on machines equipped with old style end cams, follow the same procedure as described above. The sinkers, however, must come in from one or two sinkers earlier, depending on how soon the needles move up after they leave the point of the stitch cam. The points of Standard sinker cams are somewhat blunt, better adjustments can be made if they are sharpened by re-grinding as shown in Fig. 5.

As stated earlier in this article, each fixer has his own idea as to how sinker cams should be set. Some count needles and sinkers one way, some another, others simply guess. The important thing to remember is that when the needle butt reaches the point of the stitch cam the loop is fully drawn, controlling the loop is up to the sinkers, they must move in *deep enough* and *soon enough* to take care of the loop. The *inward movement* of the sinkers must be in *harmony* with the *upward movement of the needles.*

The Sinker Dial

The sinker dial is held in position by four clamps (K-937) and screws (K-935). Additional support is provided by four binding screws (C-947) and plugs (K-971). Very little trouble is experienced with the stock between the sinker slots breaking out on the sinker dial. This is due to the fact that Standard sinkers are not subject to jam-ups, due to the manner in which they are controlled, and Standard sinkers are about one-half inch longer than those used in other makes of circular machines, which means that the sinker dial is proportionately wider and provides a longer bearing surface for the sinker. The supporting ledge on the bottom of the sinker dial which rests on the rim of the cylinder walls is long, providing a good support. When the dial is properly placed and securely tightened, it seldom works loose and will run true with the cylinder. The sinker dial should be lubricated at least once a day and it deserves a thorough cleaning at least twice a year. Vertical streaks in the knitted fabric are often caused by excessive deposits of hardened oil and packed lint around the sinkers.

The Double Sole Cams

Standard simplicity again makes its appearance in the design and arrangement of the double sole cams. These are attached to the sinker dial and each cam can be adjusted circumferentially. Thus the double sole yarn can be fed into the desired number of needles without moving the needles around, re-locating the sinker dial or grinding the double sole cams. Only a few minutes of the fixer's time are required to re-adjust the cams in case the sole yarn does not enter or come out at the desired place in the needles. A simple means of adjustment to correct little troubles will prevent big troubles, save time, money and labor and worry for the fixer.

The Needle Cylinder

The needle cylinder shown on the plate is of the old type generally known as a solid wall cylinder in which the needle slots are milled into the body of the cylinder, the stock between the slots forming the cylder walls. The sinker slots in the top of the cylinder are made in a like manner. This type of cylinder has been replaced by the inserted wall cylinder which also has the sinker slots milled into a separate ring, the ring being attached to the top of the cylinder with screws. The old style cylinder gave excellent service but it did have many disadvantages which are common to such cylinders. There was little chance, for instance, of repairing a cylinder with a broken wall, or worn or damaged sinker ring. They simply had to be discarded. Those and other troubles have been entirely overcome in the new type cylinder. One or a dozen broken walls can be replaced very easily and a worn sinker ring can be renewed at a nominal cost.

Most of the damage done to the cylinder is usually caused by other ailments rather than any particular defect in the cylinder itself. Among these are up-and-down pick troubles, badly worn cams which are apt to cause needle vibration or injury to the needle butts, too much or too little tension on the needles, excessive machine speeds, improper lubrication, and a host of other things too numerous to mention.

A great deal of the abuse which a cylinder must endure can be avoided if the fixer will work along *preventive* lines and concentrate on *preventing damage* to the cylinder rather than correcting it after it has occurred. Too much attention cannot be paid to straightening walls which have been bent, sticking the blade of a screw-driver between bent walls and prying them in line is not only the *laziest* way, but is the *worst way* to do this job. The inner wall surfaces are seldom damaged by jam-ups. The outer edges suffer the most. They must be free from rough or scarred surfaces in order to prevent additional damage. Any cylinder which is constantly in use deserves a thorough cleaning at least twice a year. The cylinder should be stripped down, soaked in gasoline or ammonia or boiled out in live steam so that all hardened oil and grit are removed. The manner of cleaning is not as important as how *thorough* the job is done.

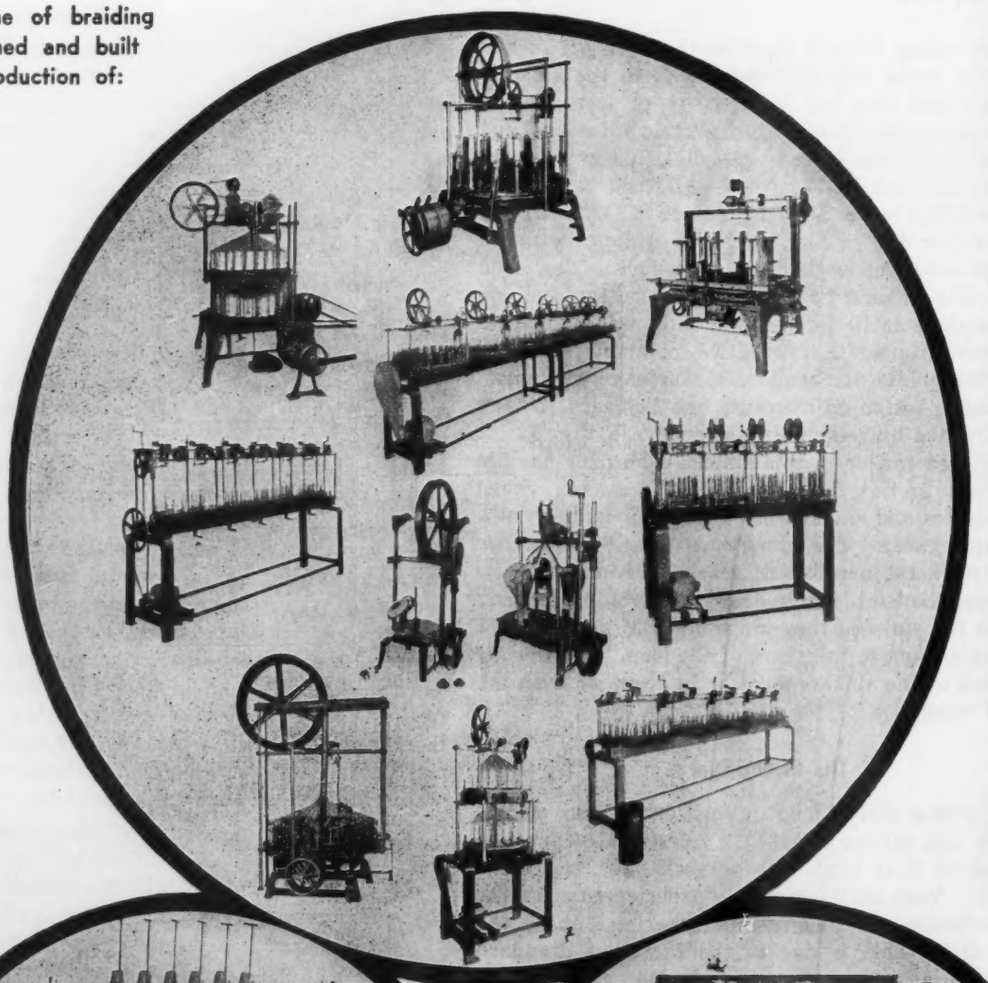
After the cylinder has been replaced it should be liberally oiled and allowed to limber up for several hours before knitting begins. In cases where inserted wall cylinders have been repaired, it is especially necessary to see that all new walls which have been put in are in a perfect circle with adjoining walls in the cylinder. This work can be done best by truing the cylinder up in a lathe and grinding the newly inserted walls down rather than filing them down by hand. It is difficult to true up walls by hand, especially if the cylinder has been repaired in a number of places. A grinder will do a perfect job.

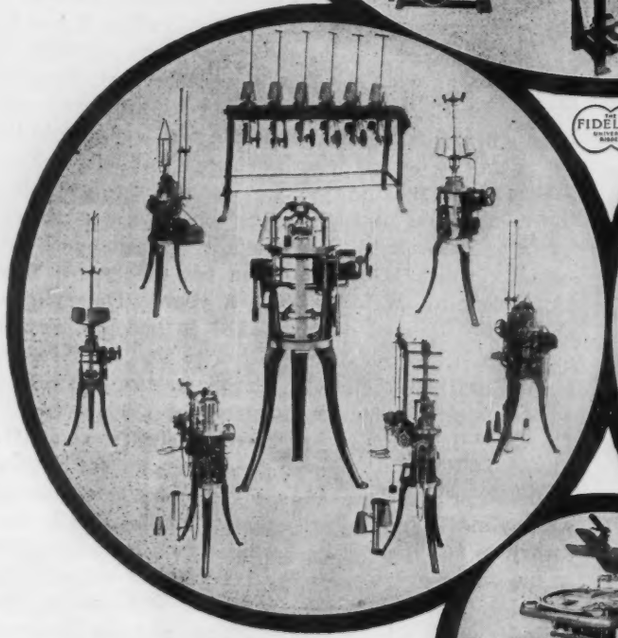
In order to be able to meet the keen competition of today a mill must produce good hosiery. It makes little difference whether it be cheap or high priced goods; it still must be well made, good looking merchandise. A knitting machine can be in first-class condition in every respect and still turn out inferior

A complete line of braiding machines designed and built for efficient production of:

Tapes
Bindings
Fish Lines
Shoe Laces
Packing
Round
and
Square
Rug Braids
Candle Wick
Elastic
Round
and
Flat
Hose Covering
Wire Covering

Special
Machines
To Order





FIDELITY UNIVERSAL RIBBERS

WINDING AND SPOOLING MACHINES

MULTIPLE-DIE CREASING

KNITTING — BRAIDING — MACHINES — WINDING — CREASING

FID ELITY MACHINE COMPANY,-PHILADELPHIA, PENNA.

goods on account of a badly battered needle cylinder. *Getting by* with a bad cylinder is out of the question. There are but two kinds of needle cylinders—good and bad.

The Cylinder Gear

Standard cylinders are fastened to the cylinder gear with four screws. The gear in turn revolves in the housing (K-121) and is held down by the ring (K-171). In replacing a cylinder, make sure that the bottom of the cylinder and the seat in the top of the cylinder gear are clean, so the cylinder will sit level, also that the cylinder screws are tightened securely. Cylinder gears give excellent service, however, a few teeth in the gear are subject to extra wear at a point where the gear comes to a dead stop and reverses its motion. The usefulness of the gear can be greatly prolonged if the gear is re-set a quarter turn in relation to the cylinder when the teeth begin to show wear at the point mentioned. The time spent in doing this work is a good investment especially if the machine is running at high speed as Standards usually are.

The Needle Bands

Needle bands, like other parts of the machine, are subject to wear, and each day's use puts them just that much nearer to the scrap box. In many cases they do not find their way into the scrap box soon enough. They are permitted to run until they finally break and serious damage often results.

It requires but a few minutes to inspect a set of bands and not over 20 minutes to replace a set. Replacing a set of worn bands is a good investment. Old Man Wear will collect his dues and heavy interest is often added if he is forced to wait too long. Order needle bands from the machine builders. They make them to fit your machines. Just any kind of band will not do. Renew the bands regularly and you will save money and turn out better hosiery.

The next article will cover the parts shown on Plate 8 in the Standard catalog.

MARTIN A. SHAW.

Aberle Licensing for Knee-High Hosiery

The H. C. Aberle Company, Philadelphia, is licensing manufacturers to make knee-high hosiery under a patent which it has acquired. It is made with Lastex built-in garters which encircle the leg just above the knee. Diminishing use of garter girdles has given the knee-highs an opening that otherwise might not exist. One of the first to announce receiving a license to manufacture the stocking is the Holeproof Hosiery Co.

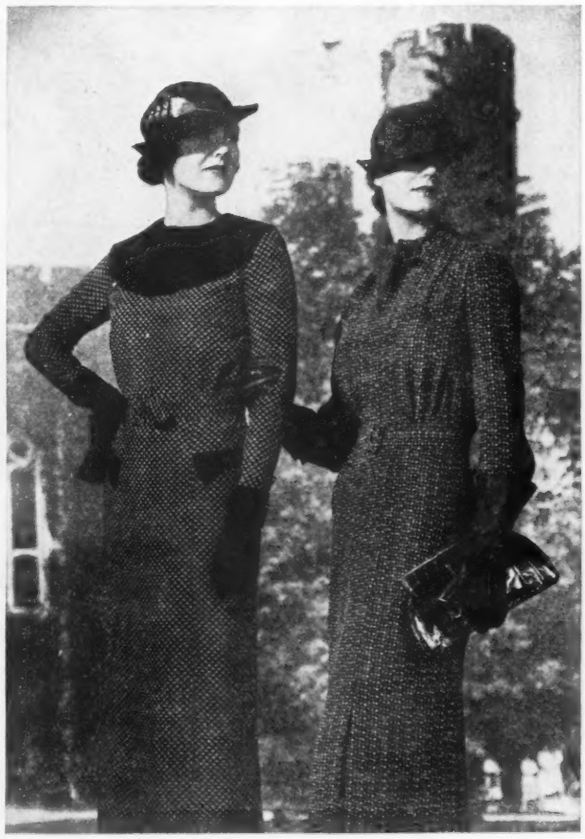
The H. C. Aberle Company has been singularly fortunate with its patents since acquiring the Hadfield patent for a seamless knit hem on a full-fashioned knit leg.

Du Pont Draperies

Drapery fabrics made of du Pont rayon from Marshall Field & Company, Chicago, and streamline furniture from Troy Sunshade Company, Troy, Ohio, have been combined to form an interesting window display at the Du Pont Exhibit on the Boardwalk in Atlantic City.

ON
FIFTH
AVENUE

FROCKS OF SEAL CREPE



● The two frocks illustrated, tailored by David Crystal of Seal Crepe, were featured by DePinna in the New Yorker Magazine.

The fabric, a fine quality flat crepe, has been woven entirely of Enka rayon yarn by Galey & Lord for the past seven successful seasons. It is particularly good in these tailored and semi-tailored models and stands up splendidly under hard wear.

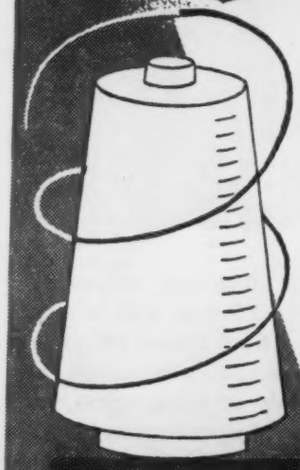
Crystal Seal Crepe dresses are also popular numbers at Peck & Peck's, both in New York and in their out of town stores.

In stores where quality is a tradition, fabrics made of Enka rayon yarn find a hearty welcome.

AMERICAN ENKA CORPORATION

Enka, N. C. • 271 Church Street, New York • Providence, R. I.

COLOR SERVICE



Let us send our Color Expert to your mill, to help you develop new shades for your line, and to assist in your general color problems. Our service will greatly aid the styling of a well balanced, better-selling line.

Mercerized by our exclusive process, even-dyeing Aberfoyle Durene Yarns naturally take richer, brighter colors.

ABERFOYLE MANUFACTURING COMPANY
123 South Broad Street Philadelphia, Pa.

aberfoyle
REPRESENTATIVES IN LEADING CITIES THROUGHOUT THE WORLD
of Durene YARNS

THE KNIT GOODS MARKETS . .

SEASONAL demand accounted for a large part of the pressure on mills for hosiery in October, the spurt in buying having had a substantial start in September. It was a common admission among manufacturers, more especially those in the northern field, that price was an important factor in moving buyers to order freely for not only the Fall shopping but for the year-end holiday period. Originally, this season, when mills were ready with their fall lines there was noted a drawback on the part of retailers, attributable to recollection of overestimating last year's effect of NRA on prices and consumptive demand, with the result there was a very arid period for manufacturers later in 1933. This fall, according to observant distributors, the stores were selling virtually all that they were buying in October. In any event, late in the month there was no falling off in orders reaching manufacturers, judging from reports from scattered representative establishments. The explanation for this doubtless might be ascribed to a run-down condition in the wardrobes of a considerable consuming element, and a return to the use of long stockings by women and misses yielding to the thrill of bare legs while the sun was riding high.

A Scarcity of Goods in Gray

Buyers were impressed in October with the scarcity of hosiery in the gray. Manufacturers previously buying gray full-fashioned stockings were in some instances so pressed for deliveries against increasing orders that it became necessary to increase their purchases of the unfinished. In the more general inquiry from buyers visiting and corresponding with manufacturers, it is reasonable to assume that numbers of mills, hitherto glad of an outlet for their production in the unfinished state, missed no opportunity to dye and finish when there were visioned prospective new accounts.

It was apparent that during much of the near boom a 30-hour week would have been short of the time needed for meeting successfully the pressure for goods. It was feared by some of those overcrowded for the time with orders that in the elation over primary market activity, there might ensue over-production to an extent that a 10-hour week would be sufficient for averting a return to the situation in July, described at the time as the most deplorable in the history of the full-fashioned industry. If, as visitors to mills report, hosiery in the gray has been pretty well taken off the market, danger from excess production may be assumed to be minimized so far as relates to 1934.

While there has been apparent a trend to better types of silk full-fashioned hosiery, retail stores in the shopping centers of some of the larger cities continued last month to feature price, some exploiting guaranteed full-fashioned, first grade, at 47 to 49 cents a pair, indicating there was no lack of 39-gauge and, presumptively, cheapened 42-gauge. A few mills increased prices for stockings on the low edge by 25 cents a dozen.

The Kraemer Hosiery Co., Nazareth, Pa., was reported having permitted one of its branch plants in Philadelphia to remain idle for a time, for the reason, it was stated by a person speaking for the company, the cost of production in this mill was too great to enable it to sell the production at the then prevailing prices. The company's other Philadelphia plant continued in production, but according to information from the sales department, prices were increased all around by 25 cents a dozen. "We shall give up trying to get along by selling hosiery at a loss," a company executive was quoted as saying.

With this mill and that of the William Brown Co. idle, a considerable production of hosiery for the "popular price" was lost to Philadelphia. This may have been balanced, however, by one or more financially crippled concerns being able to dispose of capacity production, whereas during the spring and summer their output was estimated at around 25 per cent of potential.

Road salesmen for several northern mills say it was as difficult to get $5.25 a dozen for admittedly well made 39-gauge as it was to locate distress or cheapened lines to offer for less than $5. There were reports of a few mills quoting $4.85 for 39-gauge at a time when $5 was minimum for most mills, and some standing pat on $5.25. It was one occasion when it should have been a simple matter for all to sell profitably.

October sales were held by some operators as justifying the October stage of production, ignoring stocks of 10,255,257 dozens, all kinds, in mills on September 1, an increase of 23 per cent over the corresponding date in 1933, according to reports of identical mills to the Department of Commerce. These figures, however, represented a slight decrease from the stocks reported for August 1. Increases as of September 1 this year over a year ago were reported in all classifications with the exception of infants' socks, in which there was an insignificant decline, and women's seamless. Stocks of women's full-fashioned rose by around 700,000 dozens to 3,255,417, seamless declining by approximately 180,000 dozens to 759,861.

That the sports season was regarded in August as in the offing seems to have been overlooked by distributors, as mill stocks of athletic hose increased as of September 1 by slightly more than 11,000 dozens, to 16,294, although production for August was but 21,174 dozens or only 5000 more than the amount of the stocks in mills at the end of the month. The increase in output was slightly less than a half of the increase in mills' holdings. Reports as to all classifications, athletic hose excepted, showed a decrease in unfilled orders as of September 1, 1934, compared with the corresponding date of last year. The decline for the boys', misses' and children's group amounted to 33 per cent. The unfilled orders for athletic stockings were about on a level with the August production.

While unfilled orders for men's half-hose as of September 1 declined but approximately 230,000 dozens from the previous September 1, mill stocks increased to 4,175,731 dozens, 2,987,855 dozens.

Who Does the Price-Cutting?

Invariably in a low price market—and the present is not an exception—some of the manufacturers in the North are inclined to attribute inadequate prices to cutting by southern mills. At times, Philadelphia lays insufficient price to Reading, and again the latter community finds a like indictment against Philadelphia. When alternating ceases it is usually because the price insufficiency is charged to southern manufacturers. This was revealed to a representative of a southern cotton spinner who recently listened to a Philadelphia hosiery manufacturer's lament that "the South has a lower operating cost than we in the North and can and does sell under our prices, instead of taking to themselves a greater profit as an advantage from lower operating cost. Buyers go down there and persuade manufacturers to chisel."

In language as diplomatic as he could express himself, the yarn man said he found most northern manufacturers adept at chiseling prices for yarn, reminding the manufacturer, a long time friend, that "whenever I quote a price to you, I am told somebody quoted lower, and really you make me cut my price or lose your orders." The colloquy wound up with an admission by hosier and yarn man that "everybody's trying to chisel when buying and when selling, accusing everybody else of doing the same thing."

Style's Influence in Half-Hose

Style is a more potent factor in the sale of men's half-hose than service, even when the selections for the men of the household are made by the women, who do the darning and usually are regarded as inclined to give more attention to price tags than are men. The solid color silk sock, even though it be embellished with clocking, long ago gave way to dizzy color combinations of the two lowest price fibers. Production in August as reported by 352 mills for the Department of Commerce compilation, declined to 2,855 dozens from 4,278 of full-fashioned, from July, and seamless output of silk fell to 52,067 dozens from 75,349. Men's rayon and cotton in mixture increased in August to 850 dozens from 50 dozens in August 1933 but seamless declined to 232,459 dozens, a drop of 45,508 dozens from the previous August.

"Shaggies" and "Saracs"

Half-hose to which is given the descriptive name "Shaggies", are priced one dollar a pair in stores able to main-

tain the higher prices. Shaggies are described as a product of wool and cotton in combination, and have a rabbit's wool surface, for giving them the shaggy appearance and making them sufficiently distinctive to appeal to an ultra sports element at a dollar per pair. One featured number is made with cross stripes almost a half inch wide, the stripes presenting a variety of colors.

Necessarily, shaggies are for nippy weather wear, and women are reported smitten with the unique construction and buying them for the boys "going through college." A companion number, also one dollar a pair, is described as Terry, having the surface appearance of heavy ribbed toweling. Some dealers prefer Sarac as a name for this number. Both Shaggies and Saracs are circular knitted.

Production of cotton-wool mix half hose in August was reported 310,334 dozens, a slight increase over the corresponding month of last year. Seamless increased by practically as many dozens as full-fashioned fell back. Necessarily there was the usual seasonal increase in wool and wool mixture over July. Comparing with July, August showed sharp increases in shipments of half-hose as a class, and there seems no doubt the figures for September will be materially more impressive.

Modern Machinery Gives Lower Cost

Many of the hosiery mills were so busily engaged on orders in October as to attract much attention generally, after the long period of slack business and receding prices, but it was common to hear manufacturers express doubt whether many of the mills were being operated at a profit. Nevertheless, it was noted, the "deplorable condition in the industry" complained of in code circles in July, was unheard of, and numbers of manufacturers continued to push production in a struggle to complete deliveries in conformity with specifications and appeals from scattered buyers for the trade.

It was true, no doubt, that some of the busy mills were not earning their full overhead, although their product was being sold at about the prices prevailing generally, and some showing a fair profit, according to statements obtained from owners of modern plants operated to capacity. It was disclosed in interviews with mill chiefs that in the present competitive market certain types of stockings from given models of full-fashioned machines return a profit, while comparable stockings from machines of earlier models may be selling at a loss. The profit making equipment, it developed in a limited canvass of mills, is of modern types.

Full-fashioned hosiery mill equipment has been developed to degrees of efficiency where a high-production 24-section machine, it is claimed, will produce about as many dozens of stockings in a given time as two 18-section set-ups of the primitive models not built for high speed. There is thus some saving in floor space, and the finer mechanism in the modern machine is credited with the production of superior stockings. This, it seems, would have to be a condition of the installation of modern and somewhat more costly machinery, for meeting more exacting demands, embraced in which is finer gauge.

Assuming that the claims made to a more profitable performance by machines of more recent models is tenable, it may be true, as stated by several manufacturers, that it was found expedient to scrap 39-gauge machines in order to make room for modern types of a greater number of sections. Higher speed and greater hourly production of units of floor space, these mill men maintain, have enabled them to meet this fall's competitive prices, and do it profitably, while they believed some honestly made stockings, from partly worn out equipment, had to be disposed of at a loss.

It is regarded among the more prosperous that a healthy development in the industry is the enforced elimination of some equipment that was responsible for not only unduly low prices, but considerable hosiery of a character that tended to discredit moderate price hosiery as a class.

Some manufacturers profess to believe that during the dying days of the depression the hosiery industry is being purged of many of its evils, and that present leadership will be maintained through the foresight of those at the front, giving recognition to the new order of things physical as well as sentimental and planning accordingly.

The more active items in hosiery this fall are women's full-fashioned and men's half-hose. This is an opinion of both hosiery manufacturers and machine builders, commenting on conservative but judicious installation. It is stated that the better situated producers of men's half-hose are those, mostly, whose plant installation has kept style demand and adapted to the production of new creations.

Developments in the Ringless Situation

Often has it been commented that it seems characteristic of hosiery manufacturers to "go long on resolutions" but play short of co-operating in concert of effort; ever alert for innovations calculated to supply strong talking points in the marketing, but slow to take full advantage of telling features for the betterment of conditions in the business of manufacturers collectively. Observers of the delay in procuring all round team work in the effective launching of the ringless type of women's full-fashioned stockings have been applying the comment on the manufacturer characteristic to the proposal that thereby an unusual opportunity has been permitted to smolder at a time when ringless might perhaps have proved the very development that was needed to steady the hosiery markets for periods when demand may be less insistent than in the first six weeks of the fall of 1934.

It may be interesting, and perhaps suggestive of possibilities, to refer to the observations of a representative factor, in a way neutral in the manufacture and distribution of hosiery, who for some time has expressed himself as believing that "ringless hosiery, if intelligently exploited by manufacturers as a group representative of the industry, would prove the salvation of the full-fashioned division."

Not only is the industry divided on questions of policy, in relation to the issuing of licenses for production of ringless stockings on a royalty, the factor quoted points out. Foremost in each of the two opposing camps are manufacturers recognized in the trade as leaders for volume production and wide distribution—on one side such organizations as the Berkshire Knitting Mills, Meinig Hosiery Mills and Oakbrook Hosiery Co., in Reading; Apex Hosiery Co. in Philadelphia; Julius Kayser & Co., in New York; Mock, Judson, Voehringer Co., Inc., and Greensboro Full Fashioned Silk Hosiery Mills, Inc., the latter two in North Carolina, and Textile Machine Works—founders of the Textile Patents Corporation.

The group dissenting from licensing regulations and classification of distributors comprises such important manufacturers as Gotham Silk Hosiery Co., Inc.; Nolde & Horst Co., the Charles Chipman Sons Co., Van Raalte & Co., and others equally prominent in the trade. After many conferences of the Textile Patents Corporation representatives with representatives of the dissenting group, the Textille Patents Corporation issued a statement in which it was declared that "Negotiations with various hosiery mills relative to proposed changes in the license agreements have been terminated."

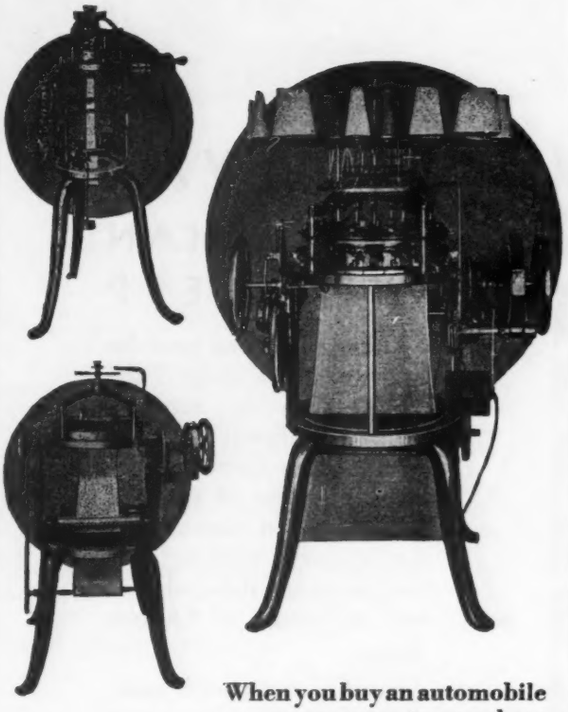
In the same statement from the Textile Patents Corporation there appeared the following: "A patentee, in licensing another person to make, use and vend, may lawfully impose the condition that sales by the licensee shall be at prices fixed by the licensor and subject to change at his discretion."

The Textile Patents Corporation stated further that it had taken a stand against rigid opposition relative to the classification of chain stores as retailers; that it was aimed to "assure reasonable profit to all sellers of the patented hosiery, including chain stores and chain buying groups." Announcement was made in this connection that Hugh M. Morris, of Wilmington, Del., had been retained by the Textile Patents Corporation as legal counsel in relation to patent litigation. He formerly was a Federal District Court Judge in Delaware and took an active part in the handling of the adjustable stocking patent suit of the Gotham Silk Hosiery Co., Inc. This announcement was followed in short order by one from the dissenters' group that Samuel E. Darby, Jr., had been retained as attorney and that "members of the outside pool of the ringless hosiery patent dispute have expressed confidence that the validity of the patent held by the Textile Patents Corporation cannot be maintained on legal grounds."

This had the effect of bringing the Textile Patents Corporation to the firing line, with a statement of October 5 that the owners of the Charles A. Kaufman patent for the ringless hose three-carrier device—Julius Kayser & Co.—had consented to the Textile Patents Corporation, which controls rights under the patent, giving all their present licensees and prospective licensees the benefit of the following modifications of the license agreement then under consideration by hosiery mills:

The royalty of 10 cents a dozen called for in the agreement is to be paid quarterly in the following manner: Five cents per dozen directly to the Textile Patents Corporation and the remaining five cents to be placed in escrow in a bank until the patent has been adjudicated. When the

MODERNIZE *your* PLANT *with* BRINTONS



Ribbers of every type.

Jersey Machines Plain and Fancy Stitches.

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Special Knitting Machines From ¼ inch to 36 inches.

When you buy an automobile —you are sure to purchase a car with a proud performance record. Why not apply the same excellent logic when you equip your mill with knitting machines? The name Brinton stands as high in its field, as Rolls-Royce, Packard, and Cadillac in the automotive industry.

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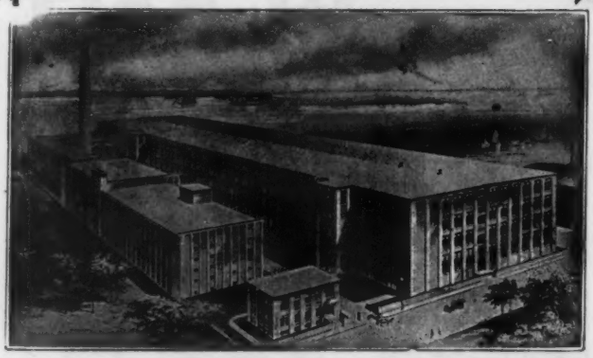
H. BRINTON COMPANY
3700 Kensington Ave., Phila.
New York Office: 366 Broadway

BRINTON CIRCULAR KNITTING MACHINES
of EVERY Kind for EVERY Purpose

Quissett Mill

New Bedford, Mass.



COTTON YARNS

MORE THAN SKIN DEEP

Goodness in yarns must be more than skin deep if the trade is to be satisfied. Quissett realized this fact. That is why they have always kept one of the best staffs of expert yarn men in the country working full time to uphold the quality as well as beauty of Quissett Yarns.

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patent has been successfully adjudicated the money in escrow is to be turned over by the bank to the licensor. If the patent is invalidated the money in escrow is to be returned to the licensees.

The price restrictions and the classification of chain stores and buying groups will not be enforced until 30 days after the successful adjudication of the patent.

In obtaining the concessions from the owners of the patent, the Textile Patents Corporation obligates itself that, in the event of infringement of the Kaufman patent, it will file suits against offenders within the next 30 days, requiring the "filing of suits against manufacturers, wholesalers, retailers and chain stores," for which purpose, the corporation announces, "a considerable fund has been provided by the Textile Patents Corporation."

Factors Impeding Progress with Ringless

Following this announcement of certain concessions on the part of the Textile Patents Corporation, evidently in the hope there might be reached an agreement to "bury the hatchet" and all hands get behind a movement for intelligent promotion of manufacture and sales of three-carrier ringless hosiery as covered in the invention of Charles A. Kaufman, there existed by implication a truce, and meanwhile conventional hosiery in many retail shops was tagged 47 cents and upward, all "guaranteed full-fashioned," other descriptions in many cases being omitted.

From the favor which ringless hosiery aroused when first the three-carrier system was declared an invention that would revolutionize the full-fashioned hosiery trade, it seems evident that by this time the revolution would be under way had all interests pulled together, leaving to a future time the matter of royalty—whether five or 10 cents a dozen—and classification of chain stores and buying syndicates. Yet some important distributors to retailers say that the dissensions which have resulted in delay and threaten litigation have not affected the attitude of average retailers toward the ring-free innovation. This seems the more noteworthy from the fact that only a few stores have advertised the ringless.

Some distributors hold that to obtain a full measure of support for this type of stocking from shoppers generally it will be necessary to advertise it to the consumers. Ringless stockings of accepted construction are reported easily fetching 50 cents a dozen more than comparable types of the conventional, and thus far there has been little complaint of price chiseling in the ringless group.

Throwsters Alarmed at Japs' Efforts for Multi-Reeled Silk

A renewal of efforts on the part of representatives of Japan silk interests is causing some alarm among American throwsters. Two apparently well informed native Japanese have for some time been calling on some of the more important silk consuming manufacturers with a view to having them adopt multiple-reeled silk, notably for hosiery purposes. The idea is to ship, in skeins, silk threads of varying denier, whereby, it is explained, users would save considerable in the cost of their hosiery tram, a great part of the saving being represented in a loss to throwsters. The proposal is not an attempted quite recent innovation, for as long ago as last February samples of 98 denier were being shown in some of the American mills, and mill heads have been encountered who say they were impressed with showings of 44 denier. The matter has been brought to the attention of the Throwsters Research Institute, Inc., on several occasions, by throwsters alarmed at the prospect of being left with employment for possibly only 50 per cent of their plants.

Multiple reeled silk, as explained by a leading throwster, means, in effect, that a manufacturer desiring seven-thread silk, which is the result of a throwster's process, simply would have 98 or 100 denier wound, a comparatively inexpensive operation. It is his impression, from what was gleaned, that manufacturers who had been visited by Japanese making a survey of the full-fashioned hosiery industry for ascertaining the fertility of the American field for substituting, for illustration, seven-thread silk already reeled to 100 denier, seemed to regard the proposal practical. Relief from the injury which would be suffered by the American throwsters might be obtained, it is suggested, by a sufficient customs duties.

One-half of the weight of silk in certain types of all-silk stockings is in the hem, it is stated by persons who are to be assumed to know. Thus, the point is made, multiple reeled silk might well be used in the hem, if not in the leg of the stocking below the hem. Such use, throwsters maintain, would deprive them of a large part of their present service to the hosiery trade.

Samples of multiple reeled silk as originally submitted to the hosiery trade proved too harsh to be satisfactory, and other minor objections to its use were advanced, it is related by a Philadelphia manufacturer of women's full-fashioned who was one of a number of widely scattered mill chiefs who gave patient consideration to the matter. Since then, it appears, means have been found for overcoming the tendency to harshness, and there now exists a feeling in some quarters that Japanese interests have made progress in the proposed substitution of the heavier threads obtained in the treatment of silk before it leaves the country of its origin. The experimentation with multiple reeled silk in American mills is said in the trade to have originated with the Gunz Silk Corporation, a Japanese organization. It will be recalled that a few years ago Van Straaten & Havey, Inc., Philadelphia, established a throwing plant in Japan.

Throwsters point out that not only is their industry in jeopardy by reason of the proposal to import so-called Japan deniered silk in skeins for the various weights required in the hosiery trade, virtually ready for use except for coning, but that there is seen danger of the multiple reeled silk being landed at American ports at around the price of synthetic yarns broadly described usually as rayon. The winding, it is suggested, doubtless would be done by the manufacturers using that type of silk.

The Throwsters Research Institute has gone into the matter of importing multiple reeled silk, but until a month or two ago had found no reason to be seriously alarmed, despite information what some throwsters claim to have gotten from scattered manufacturers in Pennsylvania and from several native Japanese who are said to be representing the Gunz Silk Corporation in the survey of the American silk industry. Thus far, as ascertained by the Throwsters Research Institute, there has been no business in the innovation of sufficient volume to cause worry.

It may be recalled that Dean Hill was for a time executive secretary of the Throwsters Research Institute and is at present engaged in a similar capacity with the organized mercerizers of cotton yarns. Successful introduction of multiple reeled silk, it is not denied by several mercerizers, might enter into serious competition with some types of mercerized yarns, of which Japan already is somewhat advanced in production. Mercerizers take note of this particularly, since some hosiery primary market interests report a disposition to get away from the silk hem, giving preference to mercerized yarn because of its greater resistance to the strain often imposed on the hem.

The Underwear Situation

The cotton textile industries strike of September left some of the underwear mills in the New York and up-state sections of Pennsylvania short of some ready-to-ship items. Even in advance of snappy weather there was delay in shipments against rush orders. Initial orders had been pretty well moved out, jobbers finding retailers fairly friendly to deliveries earlier than had been expected. There remained a great deal of men's heavy weight suits and separate garments still to be bought by jobbers as late as the latter part of October.

While deliveries have been in the main satisfactory to mills and jobbers, mildness of weather has held a considerable volume of buying in check. This is giving mills an opportunity to replenish depleted stocks, so that when the cold snap rush starts there should be something with which to make a second start with fall distribution. Prices have been steady and the trade seems to regard them satisfactory. In any event, there is said to be a refreshing absence of attempted retailer buying under the market.

Distributors continue to receive fill-in orders for shorts, and demand for light weight athletic shirts shows little abatement, notwithstanding lateness of the delivery period for light weights. It is manifest, say jobbers, that union suits are not displacing the shirts-shorts combination, and equally in evidence that the trend still is toward lighter weight garments for winter, to which may be attributed in part the conservative commitments for men's heavies. Upstate Pennsylvania mills are having a generally fair volume of medium weight business in the aggregate. Orders are not following in as close succession as might be desired, in view of the conservatism of buyers in restricting their receipts to about what the stores are selling from day to day.

taking little account of probability of demand developing with unexpected suddenness.

Women's cottons in snuggies and tight fitting suits adapted to the trade of the more exclusive shops are in good movement, and retailers are reported finding some of the innovations in cottons meeting with instant favor. It is stated that in women's numbers retailers buying from manufacturers are bent more on efforts at forcing concessions than in the case of men's heavies. The latter in particular have been marketed very close to asking prices.

Underwear is conceded to have been marketed more intelligently this year than in some of recent seasons. This is reflected in more nearly stabilized prices and a greater measure of uniformity in policies. There is entertained no fear of surplus stocks for the remainder of 1934, so far as relates especially to standard items.

Sweaters and Bathing Suits

It appears that the manufacturing season for sweaters will terminate on schedule, notwithstanding much production was lost during periods of industrial upheaval and delay on the part of jobbers in the matter of ordering for fall and winter. The relatively better demand for popular price items in sweaters, for women and men, exists in the southern field. In the metropolitan retailing markets of the North, specialties and twin sets have been taken more freely by department stores, jobbers sticking largely to distinctively staple types.

Manufacturers recently have been fairly well engaged with rush orders, but as they approach the end of their 1934 season, are slowing down on over-runs, practically all seeking to avert accumulations. Leading New York retailers specializing in popular price numbers have bought rather heavily of a few manufacturers, a group that has been getting really more than the lion's share of the year's business. Conditions among a majority of the mills would seem to point toward a flat season. It is said to have been a better one in the Cleveland area and up in Milwaukee than in the Philadelphia sector, according to reports from the trade in general.

Manufacturers are approaching their bathing suit season cautiously, getting ready with samples for back-door showings, but anticipating no general opening for six to eight weeks or more, much depending on the course of the wool and cotton markets. Most manufacturers are somewhat concerned over indications of a possible widespread interest in rubber swim suits, which had a mild start in the summer of 1933. It is said females who have been interviewed on the question are almost unanimous in favor of the knitted, but there is an element that is outspoken for fancy rubber types, as being closer fitting and good for at least one season for those whose vacations and visits to shore resorts are restricted, for one reason or another. In any event, there is enough interest in rubber bathing suits to cause some manufacturers to proceed leisurely with their preparation for next year as to the worsted lines.

Because of a steady decline in prices for worsted yarns, there was some price competition in sweaters that did not help the marketing. Memory of alleged chiseling in sweaters seems likely to cause manufacturers to proceed cautiously in approaching their bathing suit campaign. In view of an inkling of tight fitting rubber suits proving attractive to a fairly numerically strong element of surf bathers and patrons of the city pools as well, manufacturers say it should cause no surprise if knitted swim suits come out for 1935 seasons in more radical innovations, more especially as to colors, as few models would stand any further curtailment of fabric.

Hosiery Manufacturing in Mexico

Interesting report brought back by hoiseryman tourist as to development of knitting in that country; some official date

HOSIERY manufacturers in Mexico, for some years actively combing the American markets for used machinery for knitting seamless types, are turning their attention seriously to full-fashioned lines for women. Production of the flat knitted still is rather insignificant, but it would appear from Department of Commerce reports of exports from the United States that, as receipts of American full-fashioned are in declining volume there probably was an increase in Mexican output in the past year or two.

Second-hand Ludwig full-fashioned hosiery machines were shipped to Mexico within the past month or two, and an erector, by name of Senior, was reported due to reach a Mexican textile center around October 1 to set up the Ludwig equipment and start the plant operating. Mr. Senior is rather widely known among manufacturers of full-fashioned stockings prior to the slump as an erector for American built full-fashioned machinery.

Domestic exports of silk hosiery to Mexico in 1931 were officially reported as aggregating 15,707 dozens of women's full-fashioned of an invoice value of $127,368, and 1,287 dozens of men's, valued at $6,291. In the same year Mexico imported only 4,126 dozens of cotton hosiery for women, 1,744 dozens of children's and 2,939 dozens of men's, the latter valued at $6,687. The invoice value of the women's cotton stockings was $11,482 and of children's $2,825. The preference for silk full-fashioned may be said to have been indicated in the receipt of a total of 15,707 dozens in 1931, compared with a total of only 9,890 dozens of seamless cotton for men, women and children. Since then, it would appear, demand for women's silk full-fashioned has increased, for in July 1933 imports from American mills amounted to 2,554 dozens, valued at $19,712, while in July 1934 shipments declined to 1,058 dozens, of a value of $5,589, from which it is deduced that full-fashioned equipment has been gotten under way in relatively rapid fashion, under a stimulus of higher tariffs on silk stocking imports.

The prediction was voiced recently at the Mexican consulate in Philadelphia that in a few years Mexico will be in a position to "sell hosiery in the States." This would seem an idle guess, notwithstanding the low cost of labor in the big republic. A well known representative of large United States hosiery interests stated on his return from a recent visit to the capitals of Mexico that at that time the country had no unemployment problems with which to feel concerned, and, he predicted, under legislation by which certain classes of intending immigrants are not permitted to enter, Mexico is far better situated in this respect than is a great part of the U. S.

The women of the more populous sections of Mexico, said the returning tourist, give preference to full-fashioned in silk hosiery, want it sheer and, it seems, 48-gauge is in good call. The 89 cent stocking in leading stores in American cities, he states, cost women in Mexico $1.35 to $1.50 a pair. Style follows the American vogue. "From the progress shown by Mexico in developing the shoe industry," said the hosier referred to, "I would say that the prospects for expanding the full-fashioned hosiery industry are very good."

The country, with an interesting historic background, is a mecca for an increasing number of tourists and, incidentally, the planting of more American machinery in Mexico. Non residents locating there to engage in business or own a home must have a capital interest in Mexico, a precaution for averting an influx of undesirables. Since the minimum wage in Mexico is one peso a day, the big republic was viewed by the tourist hosieryman as an inviting place for industries engaging in export trade.

The republic's outurn of hosiery is of course principally of rayon and cotton construction, and the seamless industry is described as not especially flourishing, but promising of better things as industry expands and more Mexicans find employment, at better than present wages. By that time, with employment increasing and restiveness diminishing there should be fewer revolutions and Mexico will be a safer place in which to live and labor.

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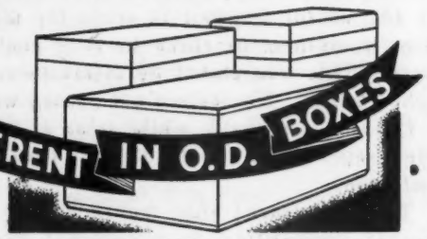

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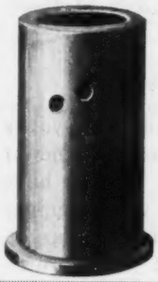

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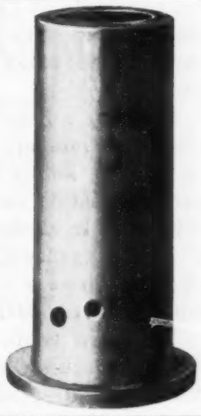

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REVIEW OF THE YARN MARKET

Philadelphia, Pa., October 17, 1934.

THE market for cotton yarns seems promising of improvement, after a period of groggy trading and unsatisfactory prices. By the middle of the current month Philadelphia traders were beginning to feel that the recovery which had been looked for as an aftermath of the September strike in the cotton textile industries really was in the immediate foreground. Sentiment still was running ahead of actual trading, however, as prices were not only inadequate but unsteady. A sale of carded 30s/2 warps, was lost today on a difference of a cent a pound between the prices of one group of spinners and a representative of another. It was a New England transaction, for a Philadelphia house, in which the buyer was given a price of 25 cents. The losing quotation was 36 cents.

The fluctuations in spot cotton since the Department of Commerce estimate of the 1934 crop was made public were not of a character to boost yarn prices, and the attendant apathy of manufacturers made it difficult to maintain them on even the low levels. But with 12 cents virtually assured to cotton growers prices for yarn necessarily could not descend to a level much under a 12-cent cotton parity, and in instances it became a question of acquiring staple fiber. Manufacturers were paying a premium of 2.10 cents for staple when single carded on cones was available at 27½ to 28 cents for average good quality yarn. The asking price for 30s single cones was 34 cents; extra, or slow carded, 35½, and double carded, 36½.

Knitting numbers sagged off in demand by the middle of October, when weaving yarns were showing a little better than in previous weeks, two-ply being quoted 31 cents for 20s and 36 for 30s. The picking up in carded for the weaving trade was said to be not general, nor was the decline in interest in underwear yarns, the latter, however, having slipped more relatively.

The yarn trade visions a seasonal demand that has been lacking, and feels there is little doubt of at least a flurry during which higher than October average prices will be paid, this view being supported by estimates of probably near 75 per cent of the cotton having been given an assured value of 12 cents. Then, too, it is figured that movement of the crop has crossed the peak and that hedging will henceforth be less a factor in fluctuations. Higher prices, rather than declines, are held by local yarn merchants as the next movement in values.

After it appeared that prices for carded yarns had seen their lowest level for the remainder of 1934, combed peelers were available at prices showing a disparity of two to three cents for medium to fine counts, and ply quoted but around one cent more, maximum, than singles. It was recalled during the recent drag in the yarn markets that in August 1933, when spot cotton closed at 10 cents, organized southern spinners set asking prices on a basis of 78 to 80 cents for 60s/1 combed peeler. By the middle of October with cotton 2½ cents higher this count was readily available at 57 cents, a drop of 21 cents on yarns while cotton had advanced. But, say sellers, no yarns were sold on the basis of the August 1933 prices set by the combed yarn spinners group, so that comparisons are meaningless, making allowance for the tendency of spinners at the dawn of NRA regulation of wages and production control to exaggerate the effect in the direction of higher values.

There was noted this month a disparity in quotations on mercerized yarns, for which there was spotty demand, some processors complaining of lack of orders while others boasted of being filled up as a result of an unexpectedly active market for hosiery. The range of prices presented an unusual problem. Gassed mercerized ply yarns were sold at 57 cents for 40s, 65 for 50s and 73 cents for 60s, at a time when quotations of three to four cents less were heard. This was stated by interests selling at the higher prices. Mercerized not gassed was quoted 70 to 73 cents for 60s/2, while sales at 68 cents were being reported in the trade, and causing no great confusion.

There appeared this month to have developed sharper competition in mercerized yarns than in gray, carded and combed, and as the month advanced eagerness for orders became more pronounced. The business seems to have been not well apportioned among the leading mercerizing establishments. Efforts at stabilizing quotations seemed to meet with little success, with the result that it became difficult to definitely put the finger on the names of those responsible for the lower quotations.

Worsted and Woolen Yarns

The perhaps more tragic developments in yarns for the textile trades is the prolonged decline of prices for worsted and woolen yarns. Prices have declined so long and so rapidly that it would appear the descent was inevitable in a bottomless market. Spinners professed to be unable to sell yarns profitably on a wool parity. Yet production always was ample, even with numbers of plants curtailing output, at times around 25 per cent of spindle capacity. The wool trade was inclined to charge spinners with exaggerating their plight, for it was pictured at the cost of wool top there was opportunity to extract a fair depression margin of profit, after figuring discounts and selling cost.

Worsted yarns for the knitting trades were rated fairly priced on a basis of 95 cents for 2/20s, high quarter blood, wool top of this grade being quoted 65 to 67 cents. But, it was pointed out, some of the New York jobbers of yarns were selling this count and grade for 85 cents. The chief drag in worsted yarns was in weaving numbers, the men's wear mills balking at prices and delaying their spring weights campaign.

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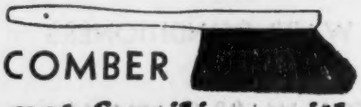

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General Offices and Laboratory: 125 S. Third St., Philadelphia, Pa.
Chicago Sales Office: 205 W. Wacker Drive. Distributors in 66 cities.

METSO — ACTIVE ALKALI

SODIUM METASILICATE
(U. S. Pat. 1898707)

for LOW COST BLEACHING *of any fabric*

BECCO

CONCENTRATED HYDROGEN PEROXIDE

Hundreds of mills throughout the United States have made this up-to-date discovery: that *Becco* Concentrated Hydrogen Peroxide is a short-cut to superior bleached goods at lowest unit cost . . . *Becco* Technical Service is prepared to show your plant the way . . . Write for full details.

BECCO

BUFFALO ELECTRO-CHEMICAL CO.
BUFFALO, NEW YORK
Boston New York Philadelphia Chicago Charlotte Toronto Montreal

USE GROUP ANALYSIS AND PRESCRIPTION

He Achieves Wonders, But NOT ALONE

American engineers have performed seeming miracles of construction in the last fifty years. Countless subways, bridges, skyscrapers, tunnels, streamline railroad trains, etc., attest to their abilities. These men have progressed rapidly largely because they have learned the value of specialization plus group effort. Hide bound tradition and inhibitions have no place in their plans, when they need broader or more intensive experience than their own to solve a problem.

Textile plant chemists and processing executives can follow their example with profit. Dealing with a complex and rapidly developing subject, the wise processing executive uses group analysis and prescription.

Arnold-Hoffman Consultation Service supplies this modern need. We maintain a complete, up-to-date laboratory and a staff of specially trained chemists to assist the trade in solving new sizing and finishing problems and in periodical check-ups on the efficiency of routine methods. More than a century of contact with all branches of the textile industry gives us an enviable background for this service.

A-H Service is FREE to all users of A-H Products, actual or potential. Why not use it?

Arnold, Hoffman & Co., Inc.

Established 1815. *Plant at Dighton, Mass.*
PROVIDENCE, R. I.

New York Philadelphia — Boston Charlotte

CHEMICAL PRODUCTS

Sizing Gums and Compounds · Soluble Gums Softeners · Soluble Oils · Tallow · Waxes · Soaps Flour · Dextrines · Starches · Pigment Colors and Lakes · Ammonia · Acids · Blue Vitriol Borax · Bichromate of Soda · Bichromate of Potash · Liquid Chlorine · Chloride of Lime · Caustic Soda (solid or flaked).

"MEON"•

COLD WATER CONDITIONING FOR COTTON

A NEW HIGH *in Efficiency* at a NEW LOW *in Economy*

USE IT • with any conditioning machine.

IN COLD WATER • it can be atomized and distributed in place of steam.

MEON • prevents rust formation. Makes rust-proof bobbin rings unnecessary.

MEON • helps retain moisture in the yarn—stops kinks.

ADD 1 GALLON to **99** Gallons of COLD WATER.

Write for full information

BORNE SCRYMSER COMPANY

Originators of the BRETON MINEROL PROCESS for CONDITIONING COTTON

17 BATTERY PLACE · NEW YORK

UNIVERSAL
STANDARD RING TRAVELERS

BEST MEET THE SPECIFIC REQUIREMENTS FOR SPINNING AND TWISTING

THE BOWEN PATENTED BEVEL EDGE TRAVELER VERTICAL OFFSET TRAVELER FOR EVEN SPINNING AND TWISTING

VERTICAL NE-BOW TRAVELER FOR SILK, RAYON AND FINE WORSTED YARNS. A TRAVELER THAT WILL NOT UNTHREAD. ESPECIALLY DESIGNED FOR LUBRICATING RINGS.

Write For Samples And Particulars.

U. S. RING TRAVELER COMPANY

PROVIDENCE, R. I. GREENVILLE, S. C.

AMOS M. BOWEN
Pres. and Treas.

Southern Sales Representatives
Wm. P. Vaughan, Greenville, S. C.
Oliver B. Land, Athens, Georgia
Torrence L. Maynard, Belmont, N. C.

"A TRAVELER FOR EVERY FIBRE"

HURLEY-JOHNSON CORP.

25 WALKER ST., NEW YORK

SOLE AMERICAN AGENTS FOR

JAMES KENYON & SON, LTD.
BURY, LANCASHIRE, ENGLAND

Celebrated

LAPPINGS and BLANKETS for PRINTING MACHINES

CLEARER, ROLLER and SLASHER CLOTHS.

For Best results in Sanforizing use

KENYON'S ENDLESS WOOLEN BLANKETS

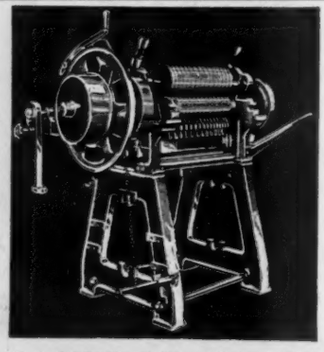
"Smoother than Grease" Since 1890

LINK-BELT
SILENT CHAIN DRIVES

Made in sizes from ¼ to 1000 H.P. and over. Drives ½ to 60 H.P. in speed ratios of 1 to 1 up to 7 to 1 carried in stock by distributors. Send for Data Book No. 125 and Stock List No. 725.

LINK-BELT COMPANY
PHILADELPHIA
CHICAGO - INDIANAPOLIS
ATLANTA - BALTIMORE
DALLAS - NEW ORLEANS

5130



CAMACHINES

slit and rewind rolls of fabric, rubber, paper, etc., at high speed.

CAMERON MACHINE COMPANY
61 Poplar Street Brooklyn, N. Y.

Replace your old cam and crank shaft spur gears with our special

SPIRAL GEARS

MANY mills are reducing the cost of head gear replacements by the use of West Point spirals. Complete surface contact is more nearly attained, permitting higher tooth pressure and consequently less breakage. Due to smoother operation, there is less shock transmitted to other moving parts of the loom.

WEST POINT FOUNDRY & MACHINE CO.

(Batson-Cook Company, Owners)

WEST POINT, GEORGIA

Manufacturers of textile machinery repair parts, loom beams, beam heads, beam barrels, gears, special machinery.

VICTOR MILL STARCH

"THE WEAVER'S FRIEND"

A *thin boiling* starch that is *highly* penetrative, carrying the weight *into the fabric* .... Assures 100% Production.

Distributed By

DANIEL H. WALLACE SOUTHERN AGENT GREENVILLE, S. C.

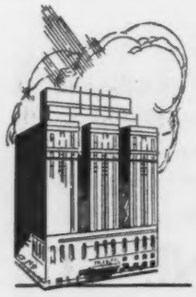
C. B. ILER, GREENVILLE, S. C. F. M. WALLACE, COLUMBUS, GA.

L. J. CASTILE, CHARLOTTE, N. C.

THE KEEVER STARCH CO. COLUMBUS, OHIO

...HAVE YOU HEARD *the one about the traveling salesman?*

He went to bed at the William Penn and slept twenty years! Well, maybe that is a little exaggerated. But anyway, the beds at Pittsburgh's number one hotel are so comfortable you don't ever want to get up. The food in the four famous restaurants is equally exceptional, and the prices reasonable. Quiet, well-furnished rooms, $3.50 single; $5.00 double, all with bath.

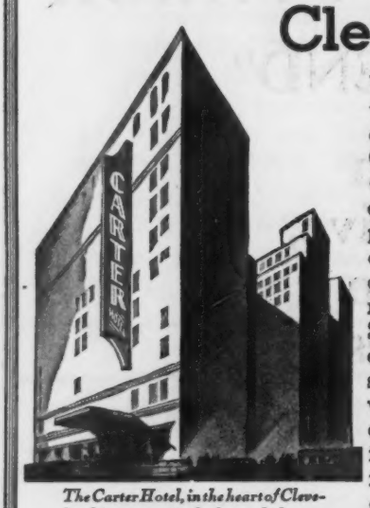


1600 ROOMS . 1600 BATHS

HOTEL WILLIAM PENN

PITTSBURGH, PENNA.

When You Come to Cleveland



When next you visit Cleveland come to the New Carter Hotel. A warm welcome awaits you—prompt, courteous service and delicious food at reasonable prices. Six hundred large, comfortable outside rooms each with private bath and circulating ice water. Exceptional facilities for conventions and sales meetings. Personalized management.

The Carter Hotel, in the heart of Cleveland is conveniently located close to leading department stores, theatres, banks and transportation terminals.

Room Rates Begin at $2.50

The **CARTER HOTEL**

PROSPECT NEAR EAST NINTH

CLEVELAND, OHIO

WILLIAM T. CRUSE, Manager

THE AUDIT BUREAU OF CIRCULATIONS

And Advertising Terms

The Audit Bureau of Circulations is the cutting edge of the "Truth in Circulation" movement.

Today, nearly fifteen hundred publications of every type, published in the United States and Canada, make detailed semi - annual statements through the A. B. C. as to the size of their circulations, where they distribute their copies and how they build up and maintain their subscription lists. Every year, the traveling auditors of the Bureau visit these publications and examine and report on the accuracy of their circulation claims.

One of the most important contributions, if not the most important, which the A. B. C. had made to the intelligent sale and purchase of advertising space is the establishment of a uniform language for buyer and seller to use. Before the A. B. C. was founded, few advertising terms were used and understood in the same way by everybody. "Net paid circulation," for instance, meant ten or eleven different things. The A. B. C. has given definite meanings to words and terms. When an advertiser is comparing a number of different publications, he knows that the same word used in the report of one publication means exactly the same thing in the reports of the others.

Fair trading without standardized terms is an obvious impossibility. Because the Audit Bureau of Circulations has given advertising terms unequivocal definitions, advertisers are today able to transact business with publications, free from the dangers of misunderstanding and of being misunderstood.

Cotton

Grant Bldg. Atlanta, Ga.

SHOWS the WAY

ABBOTT MACHINE CO.
WILTON, N. H.

ROY GRINDERS for IMPROVED STOCK.

ROY GRINDERS for ECONOMY.

All Makes of Grinders Promptly and Thoroughly Repaired

B. S. ROY & SON COMPANY
Established 1868
Worcester, Mass., U. S. A.

"Right Now New Rings Are An Excellent Investment for Us From TWO Angles"

Any mill executive knows he can improve production by replacing worn rings with new ones. But today there's another angle also — the economic situation. A good many mills are making heavy equipment purchases, as well as of raw materials, because they see that the value of equipment and materials is definitely on the increase. And here's a THIRD angle: get the maximum value from your investment by specifying DIAMOND FINISH rings.

WHITINSVILLE (MASS.) SPINNING RING CO.
Makers of Spinning and Twister Rings since 1873
DIAMOND FINISH

Southern Representative: WALTER L. NICHOLSON, 2119 Coniston Place, Charlotte
Mid-West Representative: ALBERT R. BREEN, 2650 Coyne Street, Chicago

Why the Textile Man Likes the Biltmore

—Because he is assured comfort and relaxation above all things.

—Because the Biltmore is on the cross-roads of travel.

—Because the Biltmore in close to the business district, yet removed from traffic noises.

—Because his friends usually stop here.

—Because every room is an outside room with private bath; circulating ice water.

—Because the Biltmore gives one-day laundry service at no extra cost.

—Because the food is delicious.

RATES:
Single—$3 $4 $5
$4.50 $5.50 $6.50
Two persons to room, double bed.
$5 $6 $7
Two persons to room, twin beds

MEALS:
Dining Room: Breakfast, from 35c
Luncheon, from 75c.
Dinner, from $1.00.

ATLANTA BILTMORE

"The South's Supreme Hotel"

COMING TO PHILADELPHIA?

A SYMBOL

OF HOSPITALITY

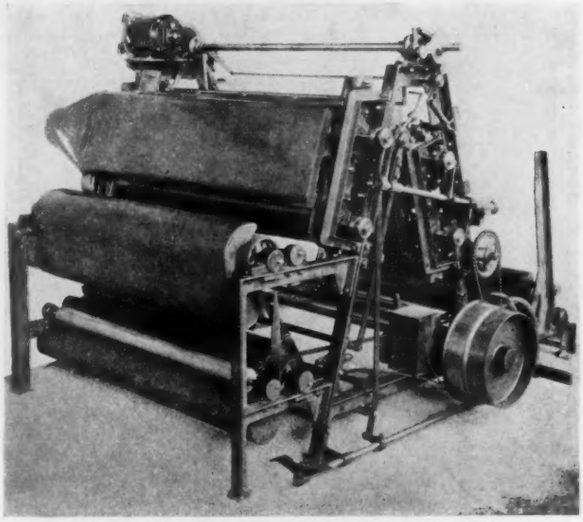
When you visit Philadelphia make **HOTEL PENNSYLVANIA** your home . . . You will find its location convenient—ten minutes to the business section . . . away from congestion and noise. . . . Known the world over for its hospitality . . . food that satisfies.

600 ROOMS, Each With Bath
From $2.50 Single, $4.00 Double

HOTEL PENNSYLVANIA

39th and CHESTNUT STREETS
PHILADELPHIA

NEW LOW PRICE
Automatic Shear!



Showing the new shear with a brush and rolling attachment.

Never cuts a seam!

No matter how close together seams may come, the vastly improved automatic in this new Hermas Shear will never cut a seam.

Knives perfectly guarded!

Each pair of knives is enclosed in a suction hood which acts as a perfect guard.

Goods may be inspected while machine is running!

A unique feature in the design of this machine is that the cloth is elevated for inspection after leaving the first pair of knives.

Radical new design!

Saves floor space!

May be used with present brushing and rolling equipment!

Write for full details and unusual new low prices.

HERMAS

HERMAS MACHINE CO.

HAWTHORNE, NEW JERSEY

Southern Representative—
Carolina Specialty Co., Charlotte, N. C.

TO EXECUTIVES

in the Cotton Industry

●

AN ANNOUNCEMENT

● In all operations requiring close control over quality standards and cost figures, accuracy in weighing and in weight-recording is vitally important.

Three years of practical development under actual plant-operating conditions, preceded by ten years of engineering research, have perfected the Toledo Printweigh, the most accurate, rapid and reliable weighing and *weight-printing* device ever developed.

To bring you the facts about Printweigh's influence over cost- and quality-control, in the most effective and time-saving manner, we have prepared a special Toledovision Presentation, "On Guard". Through it you can see and hear this new, interesting, and thoroughly-practical story in twenty minutes, *in your office.*

Without obligation on your part, we invite you to phone our local office. Simply say, "Send over 'On Guard'". A trained Toledovision operator will handle all details, and the presentation will be made in your office, at a time suitable to your convenience.

You will be pleasantly surprised at the ease with which you can get these important facts about this new development in cost- and quality-control, in twenty minutes, through Toledovision.

TOLEDO SCALE COMPANY
TOLEDO • OHIO

NO SPRINGS — HONEST WEIGHT

181 SALES AND SERVICE OFFICES THROUGHOUT U. S. AND CANADA

GOLDENS' Size Kettles

SINGLE or DOUBLE MOTION AGITATOR

CAREFULLY designed under the directions of expert mill operating men, we have eliminated, in our Size Kettles, many of the objectionable features of other designs.

The body of our kettle is cast solid, using the best mixture of grey iron. All fixtures are fitted in workmanlike manner with machined joints.

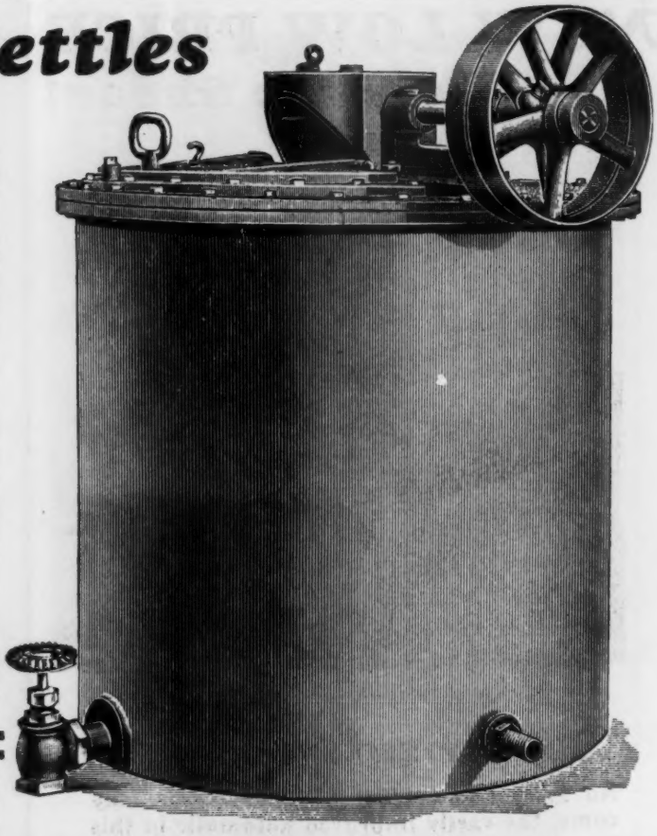
Sizes and capacities of our standard kettles are as follows:

Diameter	Height	Capacity (Gallons)
32"	32"	110
36"	36"	160
42"	42"	250
48"	48"	360

For mixing we can furnish kettles with stirrers, propellers or paddles, or combinations of same.

For heating we can furnish Steam Jacketed Kettles or kettles with brass coils, one or more layers, closed or perforated.

Additional information and detailed drawings furnished on request.



GOLDENS' FOUNDRY & MACHINE CO.

COLUMBUS, GEORGIA

Also manufacturers of

Hangers
Pillow Blocks
Shaft Couplings
Cast Iron Pulleys
V-Belt Sheaves
Ball Bearing Transmission Equipment
Ball Bearing Blower and Fan Boxes
Continuous Dyeing Machines
Raw Stock Dyeing Machines
Dye Liquor Tanks
Cast Iron Tanks
Cloth Inspecting Machines
Grey Iron Castings

TRADING POST EXCHANGE

BUSINESS—EMPLOYMENT—EQUIPMENT—PROFESSIONAL CARDS—OPPORTUNITIES

DISPLAY RATES

Rates are net, payable in advance each month. No commissions or discounts. Page is 3 columns, 10 inches deep—30 inches to page. Space measured by even inch vertically by 1, 2 or 3 columns in width. Column width 2¼ inches. Rates based on the total space used in one year.

	Per Inch		Per Inch
1 inch	$5.00	15 inches	4.20
3 inches	4.80	20 inches	4.00
6 inches	4.60	50 inches	3.80
10 inches	4.40	100 inches	3.60

UNDISPLAYED

Advertisements set "Want ad" style. Positions wanted .05 word per insertion. Minimum charge $1.00 per insertion. Cash with order. All other classifications .10 word per insertion. Minimum charge $2.00 per insertion. Advertisements of equipment, for sale, rent or wanted and professional cards are accepted at display rate only.

Box number addresses care of COTTON, Grant Bldg., Atlanta, Ga., count as eight words.

BETTER TEXTILE MACHINERY AT A GREATER SAVING

With 25 years experience with largest textile machinery builders, designing, engineering and selling—with knowledge of how to secure machinery at the greatest savings and how to save time and expense in shipping—We are able to render our clients a service they cannot secure elsewhere. Tell us what you want.

GEORGE F. LANGEVIN, 20-22 Howe Bldg., LOWELL, MASS.

Specializing in Textile Machinery for Relocation.

Paul B. Eaton

PATENT LAWYER

1408 Johnston Bldg., Charlotte, N. C.
514 Munsey Bldg., Washington, D. C.
Former Member Examining Corps U. S. Patent Office

POSITION WANTED

Full-Fashion Hosiery — young married man thoroughly experienced in manufacturing. Capable foreman and fixer; ambitious; no bad habits. Address Box 129, care COTTON, Grant Bldg., Atlanta, Ga.

POSITION WANTED

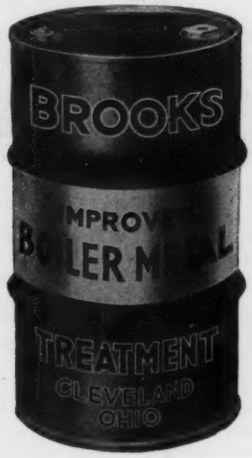
By a thoroughly experienced Full Fashion machine fixer, also Seamers and Loopers, former Erector and Superintendent of over 15 years experience north and south, capable of handling help successfully, good reference. Address Box 128, care COTTON, Grant Bldg., Atlanta, Ga.

"Cotton Mill Machinery Calculations"

EVERY Textile Man should have these reference books. They cover in a detailed and thorough manner all calculations necessary to be made on any cotton mill machinery manufactured in the United States and constitute one of the best references on the subject obtainable. The two volumes are illustrated with 45 diagrams and contain 21 reference tables. Strong, serviceable binding. You can secure them in conjunction with a three-year subscription to COTTON.

STOP

SCALE-PITTING
and
CORROSION
in Your
BOILERS



**SIMPLE
SAFE
POSITIVE!**

BROOKS IMPROVED BOILER METAL TREATMENT is easy to apply and handle. It requires no tests or expensive mechanism to insure its success.

Mechanical in action. It wedges off the scale by expansion and leaves a protective heat-conducting coating, over which new scale and corrosion cannot form. It contains no acids, and imparts no odors or chemicals into processing steam.

For over thirty years the BROOKS OIL COMPANY have guaranteed this treatment to do everything claimed for it.

Take this opportunity to get the full details, because the use of BROOKS IMPROVED BOILER METAL TREATMENT is one sure way to stop scale, pitting and corrosion in your boilers.

The Brooks Oil Co.
CLEVELAND OHIO

AN UP-TO-DATE PRINTING PLANT

equipped with modern machinery and a staff of competent workmen, solicits, thru this publication, a trial order on your printing needs.

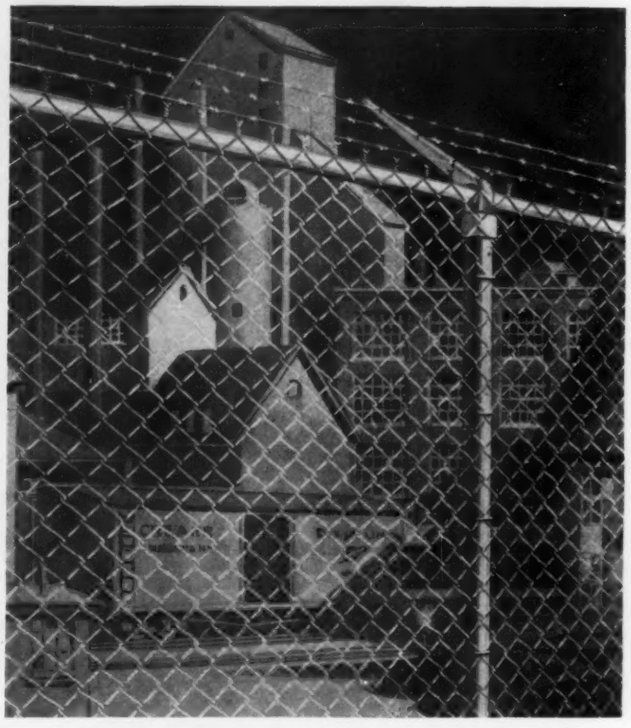
We have built a reputation that is known over the entire South by our special attention to the minutest detail.

We are more than ready to answer any question that relates to your printing problems.

Write us and let us quote you on anything from a postal card to a full bound book.

The A. J. Showalter Co.
PRINTERS AND PUBLISHERS
DALTON GEORGIA

PROTECTED FOR YEARS



By CYCLONE FENCE

NOT ONLY does Cyclone Chain Link Fence assure added safety at a price far below the losses suffered from fire, theft and accident, but it also gives every feature you should demand in a fence.

Consider these advantages: *Exit* and *entrance* of visitors, employees and trespassers are absolutely within your control, outdoor storage space may be added to your property with security and the possibility of liability suits resulting from accidents to outsiders will be eliminated when your property is surrounded by strong Cyclone Chain Link Fence.

You have no construction worries or problems. The entire job from accurate estimate to final expert erection is carefully handled by the factory trained experts of a Company with a record of nearly half a century of superior service.

Complete information furnished on request. Write for catalog, no obligation. Address Dept. C.

CYCLONE FENCE COMPANY
General Offices: Waukegan, Ill.
BRANCHES IN PRINCIPAL CITIES

SUBSIDIARY OF UNITED STATES STEEL CORPORATION

Pacific Coast Division:
Standard Fence Company, General Offices: Oakland, Calif.

Cyclone is not a "type" of fence but fence made exclusively by Cyclone Fence Company and identified by this trade-mark.

Cyclone Fence
REG. U.S. PAT. OFF.

Advertisers' Index

A

Aberfoyle Mfg. Co. 112
Abbott Machine Co. 127
Acme Steel Co. ..... *
Akron Belting Co. 94
Aldrich Machine Works 8
Alemite Corp. ..... *
Allis-Chalmers Mfg. Co. 12
American Enka Corp. 111
American Obermaier Corp. ... *
Ammon, Inc., Edw. R. ..... *
Anderson, Clayton & Co. ..... *
Arguto Oilless Bearing Co. ...124
Arkansas Co., Inc. 30
Armour & Co. ..... *
Armstrong Cork & Insulation Co. 55
Arnold, Hoffman & Co., Inc. ..123
Atlanta Biltmore Hotel 128
Atlanta Brush Co. 122
Atlanta Envelope Co. ..... *
Atlanta Harness & Reed Mfg. Co. 76
Atwood Machine Co. 92

B

Barber-Colman Co. ..... *
Boger & Crawford ..... *
Borne Scrymser Co. 124
Bosson & Lane, Inc. 122
Brinton Co., H. 115
Bristol Co. ..... *
Brooks Oil Co. 131
Brown Co., David ..... *
Buffalo Electro - Chemical Co., Inc. 123
Butterworth & Sons Co., H. W. ..... *

C

Cameron Machine Co. 124
Campbell & Co., John 121
Champion Fibre Co. ..... *
Ciba Co. 82
Clinton Co. 76
Clipper Belt Lacer Co. ..... *
Cole Mfg. Co., R. D. 94
Corn Products Refining Co. ..121
Crane Company 65
Crompton & Knowles Loom Works ..... *
Cyclone Fence Co. 131

D

Dayton Rubber Mfg. Co. ..... *
Dixie Mercerizing Co. ..... *
Draper Corporation 1
Dronsfield Bros., Ltd. 94
Dupont de Nemours & Co., E. I., Dyestuffs Division ..... *
Dupont de Nemours & Co., E. I., Paint and Varnish Division ..... *
Durant Mfg. Co. 92

E

Eaton, Paul B. 130
Emerson Apparatus Co. ..... *
Emmons Loom Harness Co. ... 95

F

Fafnir Bearing Co. ..... *
Fidelity Machine Co. 110
Finnell System, Inc. 88
Foster Machine Co. 7
Foxboro Co. 72
Franklin Process Co. ....Inside Front Cover

G

Gardinol Corporation ..... *
Gastonia Brush Co. 94
Gates Rubber Co. ..... *
General Coal Co. 16
General Dyestuff Corp. 86
General Electric Co. 67
General Electric, Nela Park .. 14
General Electric Vapor Lamp Co. 18
Gill Leather Co. 61
Gilman Paint & Varnish Co. .. 83
Goldens' Foundry & Mch. Co...130
Goodrich Rubber Co., B. F. .. *
Goodyear Tire & Rubber Co. .. 53
Grasselli Chemical Co. ..... *
Graton & Knight Co. ..... *

H

Hart Products Corp. 82
Henderson Fdry. & Mach. Works 10
Hercules Powder Co., Inc. ... 27
Hermas Machine Co. 129
Hinde & Dauch Paper Co. .... *
Hotel Atlanta Biltmore 128
Hotel Carter 126
Hotel Pennsylvania 128
Hotel Vanderbilt 28
Hotel William Penn 126
Houghton & Co., E. F. 59
Howard Bros. Mfg. Co. 6
Hurley-Johnson Corp. 124
Huyck & Sons, F. C. 94
Hyatt Roller Bearing Co. 9

I

Industrial Dryer Corp. ..... *
Industrial Rayon Corp. 34
International Nickel Co. 13

J

Jackson Moistening Co., Inc... *
Jacobs Graphic Arts Co. 22
Johnson Bronze Co. 76
Johnson, Chas. B. 122

K

Kali Mfg. Co. 121
Keever Starch Co. 125

L

Langevin, George F. 130
Laurel Soap Mfg. Co. 119
Lawrence Leather Co., A. C. .. 71
Link Belt Co. 124
Loper Co., Ralph E. 122

M

Manhattan Rubber Mfg. Co. Division 25
Merrow Machine Co. 95
Moccasin Bushing Co. 119
Morehead Mfg. Co. 88

N

National Oil Products Co. ... 29
Neumann & Co., R. 122
New Departure Mfg. Co. .... *
New York & New Jersey Lubricant Co. 89
North, Inc., Frank G. 82

O

Old Dominion Box Co. 119
Onyx Oil & Chemical Co. ... 23

P

Pearson & Sons Co., Jos. T...119
Permutit Co. 21
Phila. Felt Co. 92
Phila. Quartz Co. 123
Power Transmission Council .. .. 62 and 63
Powers Regulator Co. 20
Proctor & Schwartz, Inc. 90

Q

Quaker City Chemical Co. ... *
Quissett Mills 116

R

Reeves Pulley Co. 11
Reliance Electric & Eng'g. Co.. 17
Republic Rubber Co. ..... *
Republic Steel Corp. 32
Rhoads & Sons, J. E. ..... *
Robert & Co. .....Front Cover
Rockwood Mfg. Co. ..... *
Rohm & Haas Co., Inc. .... *
Roy & Son Co., B. S. 127
Royce Chemical Co....Back Cover
Royersford Needle Works, Inc..104

S

Saco-Lowell Shops 57
Sargent's Sons Corp., C. G. ... *
Scholler Bros., Inc. 116
Schieren Co., Chas. A. 76
Scott & Williams, Inc. 97
Seydel-Wooley Co. ..... *
Sherwin-Williams Co. ..... *
Showalter Printing Co., A. J...131
S. K. F. Industries, Inc. ..... *
Skybryte Co. 119
Smith, L. C. & Corona Typewriters, Inc. 24
Solvay Sales Corp. 122
Sonoco Products Co. 4
Standard Brands, Inc. 31
Standard, Coosa, Thatcher Co..114
Steel Heddle Mfg. Co. 90
Stein, Hall & Co., Inc. ..... *
Stewart Iron Works Co., Inc.. *

T

Taylor Instrument Companies. 15
Terrell Machine Co. 85
Texas Co. 2
Textile Banking Co. 93
Textile Machine Works 98
Three-In-One Oil Co. 79
Toledo Scale Co. 129
Torrington Co. .....107 and 108

U

Union Special Machine Co. ... 80
Universal Winding Co. 3
U. S. Gutta Percha Paint Co... .....68 and 69
U. S. Ring Traveler Co. 124

V

Veeder-Root, Inc. ....Inside Back Cover

W

Wak, Inc. 76
Wallerstein Co., Inc. ..... *
Want Ads 130
Waterman, Currier & Co. 116
West Point Foundry & Mch. Co. 125
Whitin Machine Works 5
Whitinsville Spinning Ring Co..127
Wildman Mfg. Co. 102
Williams & Sons, I. B. ..... *
Willcox & Gibbs Sewing Machine Co. 74
Winslow Bros. & Smith Co. .. *
Wolf & Co., Jacques 19
Wright Co. ..... *

Veeder-Root engineers have been perfecting pick counters ever since they designed, built and installed the first one, 26 years ago. They have been busy inventing, improving, perfecting . . . adding an important refinement . . . making a sweeping change to fit the changing needs of the industry.

Examine the latest Veeder-Root model and you will find no less than 14 important refinements . . . the result of our experience in building the 350,000 Veeder-Root Pick Counters now installed throughout the world. Some of these refinements are responsible for the counter's unfailing accuracy. Some contribute to its long and trouble-free life. Others assure its economy. Every one of them is a *necessary* refinement . . . a refinement you will *insist* on having in any new counter for your looms.

Ask a Veeder-Root representative to demonstrate why Veeder-Root can back these modern counters with a five-year guarantee . . . why the pick counters you buy *need* these 14 Veeder-Root features.

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BUILDERS OF COUNTING DEVICES SINCE 1878

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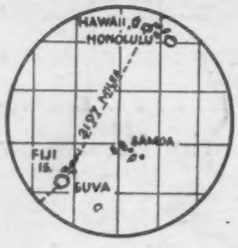
Know WHERE You're Going . . and GET THERE!



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